

June 1993

# The National Locksmith®



**Fort Lock Corp.**  
Contest Update...p. 36

•  
**American  
Lock & Supply**  
Close-up...p. 58

*Electronic Lock Products*



# Contents

June 1993 • The National Locksmith • Vol. 64, No. 6

**24** **Panic Exit Devices**  
*There's a lot to know about panic devices!*

**28** **GM MATS Column**  
*Learn all about this new column from GM.*

**34** **Electronic Hardware Ratings**  
*Define the right hardware for the right application.*

**36** **Fort Lock Corp. Contest Update**  
*Fort is offering a Harley-Davidson as first prize.*

**36** **Product Review: Electronics**  
*Here's a look at a variety of electronic products.*

**41** **Decorative Hardware**  
*Want more info on attractive hardware items?*

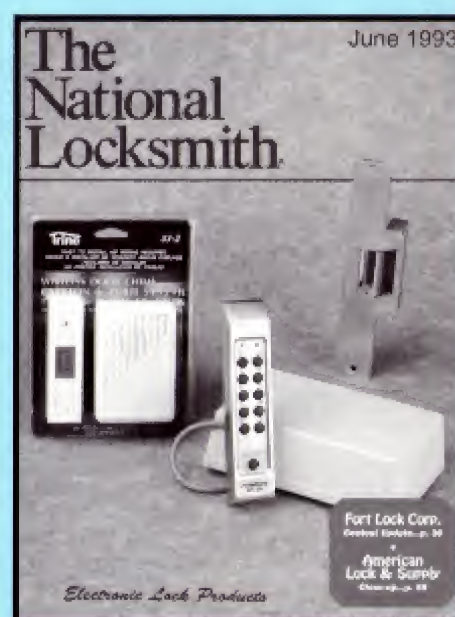
**44** **Creatively Unconventional**  
*Jake Jakubowski tells us about a recent safe job.*

**54** **Dial Ring Alignment Tool**  
*Carl Cloud writes about a tool to make safes easier.*

**58** **American Lock & Supply**  
*Get to know more about this locksmith wholesaler.*

**68** **Never Say DIE!**  
*Dale Libby weaves his usual magical spell!*

**72** **Bits & Pieces**  
*Here is a variety of tidbits on the locksmith industry.*



## On The Cover

This month's front cover features products by three of the manufacturers producing electronic locking products. The products are manufactured by Rofu International Corporation, Trine Products Corp.; and Securitron. For a view of more electronic products, please turn to the product section on page 36.

## Departments

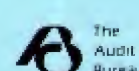
- 5 Commentary
- 6 Seroogy Speaks
- 8 Letters
- 10 Technitips
- 18 Newsmakers
- 74 The Lighter Side
- 76 Beginner's Corner

**Click on the article  
you wish to read**

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# Commentary

## The New Security Professional Council!

A very exciting new program was announced at the recent meeting of the National Locksmith Suppliers Association (NLSA) in San Diego. A group called the Security Professional Council has been formed with the following mission:

*"To increase security awareness among both the residential and business consumer in an effort to create additional sales for the local locksmith—the security professional."*

WOW! Someone is taking important steps to promote both security, and the locksmith as the security professional! All I can say is that a program like this is very much needed and could do a great deal to help the locksmith become re-established as the most important source for security products and services.

Who is behind the Security Professional council and its mission? Although the effort was originated by a start up from the NLSA, the council is actually a consortium of distributors, manufacturers and locksmiths. NLSA contributed the seed money in order to launch the program. (They donated \$45,000!) The council, however, is an independent group. The leadership being exhibited right now by this group will create a very positive force to help our industry.

What will the council be doing to help promote the locksmith? An ambitious communications campaign directed toward consumer education will begin with two television commercials. One is aimed at the residential consumer; the other is directed toward the commercial consumer.

A video showing both of these commercials will shortly be available from the council for just five dollars. This will allow all of you to view the ads and see how you may personally be able to benefit from them. Then, a kit including a broadcast quality copy of the commercials will be made available to locksmiths for only \$49.95.

Included with the kit is information about how your business can purchase TV time from local stations and cable stations. Included at the end of each commercial is a "tag." This tag can easily be customized by your TV station to carry your name and phone number. The council tells us that TV time can be purchased very economically on the local level. Also, they mention that

the local station will usually produce the tag free for an advertiser.

I believe that this is an exciting opportunity for you! After all, many thousands of dollars were spent to create these ads. Yet, for under fifty dollars you can purchase the tapes to use in your community. Don't worry that buying advertising time may be very expensive or complicated. The kit includes information telling you how to make the purchase and negotiate the rates.

Personally, I was amazed by the response to this program from the manufacturers and distributors at the meeting when all this was announced. Within two days the Security Professional Council had received pledges for donations in the amount of \$68,500! This is *in addition* to the original \$45,000 from NLSA. Also, it should be noted that ALOA made a significant contribution of funds to help this effort.

All I can say is: Way to go guys! *The National Locksmith* magazine will be contributing to this effort. But perhaps more importantly, we will be bringing you new ideas and marketing methods to allow you to really benefit fully from this new project. It's about time the public learned about the locksmith—today's Security Professional.

For more information, contact Administrator Debbie Hayes, Security Professional Council, 1900 Arch Street, Philadelphia, PA 19103, (215) 564-3484, fax (215) 564-2175.

Stay tuned to *The National Locksmith* for more details and news about this program.



*Marc Goldberg*  
Editor/Publisher



# Seroogy Speaks...

## Notes From the Managing Editor

**Professionalism.** That's what we all talk about; what we all claim we are trying to achieve. And, yet, it seems that other security professions have grown out around locksmithing, usurping many of the jobs and responsibilities formally reserved for the locksmith. They sell hardware and masterkey systems, alarms and access control systems.

Why?

Several reasons, I think. But mostly, I believe it's because they have envisioned a much larger picture of security and security hardware than locksmiths, and they have done something about it.

The alarm industry, for example, has created strong associations and organizations that have very clear-cut and focused goals.

They have defined levels of competency necessary before one can work in the trade. This of course, requires establishing a means for training and testing. And it also means that an individual cannot participate at will.

Their industry has also become politically active, often pushing for legislation that requires licensing if one is to practice their trade(s).

**Whether we agree** with the practices or course that the alarm industry has taken, the fact remains, they are a power that has to be contended within in the field of security. The unfortunate result has been an ongoing adverse relationship with the locksmith.

The fact also remains, that locksmithing as a trade, at present, holds little clout, and many locksmith companies have or are currently doing battle to protect their right to practice many of the jobs formerly done by their companies.

Now, not all of you may agree with me, that's okay; but if locksmithing is to be a "professional" trade, viable and visible in the future, we need to consider much change.

**The unfortunate obstacle** that our trade has, as of yet, to overcome, is our image. For too long locksmithing has been viewed as the "gypsy" of the trades. Or, picture, if you will, the famed Larry, Daryl and Daryl brothers of the Bob Hartman Show.

This image has been reinforced by



locksmiths working from the trunk of rusty old Mavericks, using parts that have been scavenged from other locks, whose tool collection is comprised of a hammer, two bent screwdrivers, a coat hanger and a roll of duct tape, working with second hand knowledge and without manuals, and little if any training.

**While I'm being facetious**, the point is, as a trade we do not have "standards" by which to define a locksmith. Due to our rather independent, and sometimes sequestered, nature, local locksmith associations are under supported, and, as a single industry we lack the cohesiveness needed to be a power within our society.

If I were to envision the future, there are two paths by which the locksmith trade can run.

Moving as it is now, we may simply be absorbed by the politics and big business of the alarm industry and the door and hardware industry. In fact, it is already happening. Today alarm companies and large retail outlets are hiring locksmiths.

**Even within our trade** big business has moved in, placing the value of the dollar above the concerns of the people they claim to support.

As Americans, we should know that big business holds no scruples, no loyalties. We would be foolish to think that these companies (and owners or stockholders) are going to base their success on a group that constitutes 15 percent or less of their income. (Would you?)

Like the small Mom & Pop grocery stores that have been swallowed up by large corporate stores, our trade is facing some drastic transitions. Locksmithing may become a skill gone the way of blacksmithing.

On the other hand, if we move to

promote ourselves as the security professionals we are, locksmithing can solidify its place as a respected trade and profession in everyone's eyes.

Of course the changes needed are not easy to accept, let alone agree on. With any change there is a trade off.

**For example**, in order to define "locksmith" we must include not only what "one is" but what "one is not." Once a definition is established, many that consider themselves locksmiths today, may find they are not tomorrow. Who makes that decision?

How about competency levels and training? Quite frankly, I believe in competency requirements for locksmiths.

On the other hand, I don't want to be required to take paper exams developed and written by a select few in our industry. Even GM mechanics are required to take both hands-on and written tests before they are certified. In fact, much of the GM training centers on how to use necessary manuals and reference material. Apparently GM understands that memorizing part numbers and other trivia doesn't constitute competency.

**The question now arises**, who sets and dictates the standards?

Another problem is the constant push for licensing by other trades. While done for "the protection of the public," most legislation is simply a means by larger entities to block competition.

I disagree with licensing, it's all politics. The reality of the problem is, however, that other trades have introduced and, in many instances, passed legislation that stops a locksmith from doing his job. Not fair, just reality.

How do we fight unfair legislation?

(I'm not writing this with the idea of presenting any definitive answers. I am curious as to where our profession is headed.)

**While I'd like to retain all of the individualistic, self-reliant characteristic** of the locksmith profession, changes need to be made if we are to establish ourselves in a society run by big business and politics.

At this point the solution(s) may lie in local and/or state associations. Most laws affecting locksmiths are done at

*Continued on page 80*



# Letters

## Comments, Suggestions and Criticisms

*The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length. Please address your comments, praise, or criticism to Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.*

### In Memorium



Teddy C. Ryan, Sr. passed away March 2 in Sanford, FL at the age of 84. He was born in Wheeler, MS, and raised in Louisiana where he finished high school and college. Mr. Ryan then joined the Navy and later settled in Norfolk, VA where he met his wife and later raised his family.

Teddy sold automobiles until the early 50's when he began to learn the locksmithing trade through

correspondence courses. He mastered the trade quickly and soon opened his own shop. He was a Master locksmith for many years, a member of ALOA for over 30 years and in the Locksmith Hall of Fame at his retirement.

His name is known in the industry for being a pioneer in motorcycle code research, having published the *Cycle Codes Master Edition* with the help of his son Robert, which is now marketed through *The National Locksmith*.

Mr. Ryan also helped Taylor/Ilco to be current on the production of motorcycle key blanks.

He is survived by his wife Marion, daughter, Patricia Baker, sons Teddy Jr. and Robert, six grandchildren and two great granddaughters. His son Robert and grandson Teddy III carry on the family business in the Central Florida area and continue to work on

### TNL Thanked For Donation To Hurricane Relief Fund

To Marc:

Just a short note to bring you up-to-date on the hurricane relief fund. We sold six NSO certificates that you sent which put \$600 into the fund. Our total income was a little over \$4500. Those funds were distributed to some very needy locksmiths.

I can't thank you enough for your

interest and assure you that Marc Goldberg and *The National Locksmith* magazine is in the minds of all the locksmiths in the South Florida area. It seems to me I was constantly commenting on the help you gave use.

Roy Renderer  
Florida

### Rookie Locksmith Has Training Advantage

Dear Marc:

I would like to express my thanks for all the useful information I have gotten from your magazine. I am a new locksmith, and I also work as an instrument technical electrician for a large company. I too have had unfavorable responses from what you would call my fellow locksmiths. I even went to a local distributor, to establish myself, in case I would be needing supplies. After about a half hour wait, and a lot of laughing after I informed them what I was there for, I was told sure we can supply your needs but the guys who are already locksmiths in the Falls, will get a big kick out of what you're doing. I would like to know where and how they got their start. Was it just as funny then? Well, I have news for all of them. With my mechanical instrumentation and electrical background, I will surpass them. Locksmithing is entering a new level: one of which I am already qualified for!

Ronald Catchpole  
New York

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# Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107

by Robert Sieveking

## June's Best Tip

I was recently called to do a simple combination change on a safe when the original combination was unknown and the door open.

When I arrived, to my dismay, I found the back cover screws had been replaced with twelve tamperproof screws. I knew my tamperproof screw kit and driver were at home. Rather than return home (45 mile round trip) I made the simple tool shown in illustration one, from a spare S & G change key.

To use the tool, rotate the dial to bring a wheel change hub into view, in the change key hole of the lock. Insert the short end of the modified

change key, and rotate it counterclockwise, to unlock the back (#1) wheel. (a familiar click is heard each time a wheel unlocks) With the tool in the back of the lock, dial the safe until the tool drops into the (#2) second wheel. Because of the design of the tool each successive wheel can be unlocked without relocking or disturbing the

condition of the previous wheel.

After all wheels are unlocked and set to 50-50-50 at the change index the long end of the tool (with the wing filed off) is used to turn the wheels (90 degrees clockwise only) back to the locked position at this point the combination change can continue with a conventional tool.

Normally, we inspect, clean, and

## These Prizes Awarded Each Month!

All-Lock A-7000 VATS Decoder

HPC Pistolpick

Silca Rubberhead Keyblanks (100 blanks)

ESP PR-13 Professional Lock Pick Set

Sieveking Products EZ-Pull GM Wheel Puller

Fort Lock Merchandise Rack

*Submit your tip and win!*

Continued on page 12

## How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to The National Locksmith. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will not be eligible! So get busy and send in your tips today. You may win cash merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1992? Enter today! It's a lot easier than you think!

## Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker and decal. Plus you are now eligible for the really big prizes!

## Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a Bonded Locksmith bumper sticker, decal and a Locksmith Cap. Plus, you may win one of the annual prizes.



Continued from page 10

### Special Change Key

For combination change without knowing previous combination.

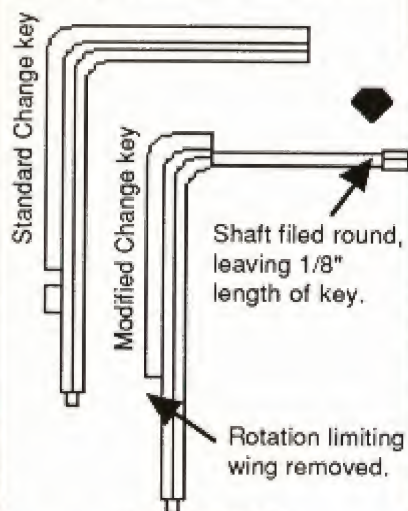


Illustration 1

lube the lock at combination change time, but in some cases, this tool can make removing the back cover unnecessary to do this specific type of combination change.

I hope this technitip can help my

locksmith brothers and sisters in the USA and Canada.

Shane Maloney  
Canada

\*\*\*\*\*

### All-Lock VATS Decoder Winner

This Technitip concerns removing stuck keys from the older style single sided Chrysler ignition. After the ignition wears slightly, the key can be accidentally inserted into the ignition upside down and become jammed. The key buzzer actuator hooks into one of the deep cuts of the key. No matter how hard you pull, it will not come out.

The solution is simple. Insert a lock pick in the bottom right hand side of the ignition and push down on the buzzer actuator while you wiggle the key out.

I hope this Tip proves beneficial to other locksmiths.

Troy Sullivan  
Canada

\*\*\*\*\*

### HPC Pistolpick Winner

This technitip is a method to help with double cylinder deadbolt installations. If you get frustrated trying to hold both cylinders in position and keep the tailpieces timed and in place while trying to get the mounting screws started, this solution is for you.

Simply take two spare mounting

### Screw Modification

Simplifies cylinder lock location & installation

Grind away head, leaving only the phillips slots, for removal.

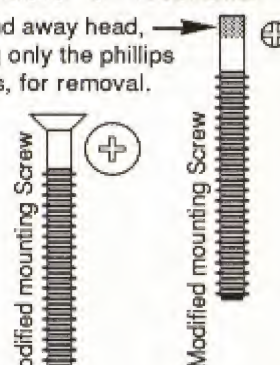
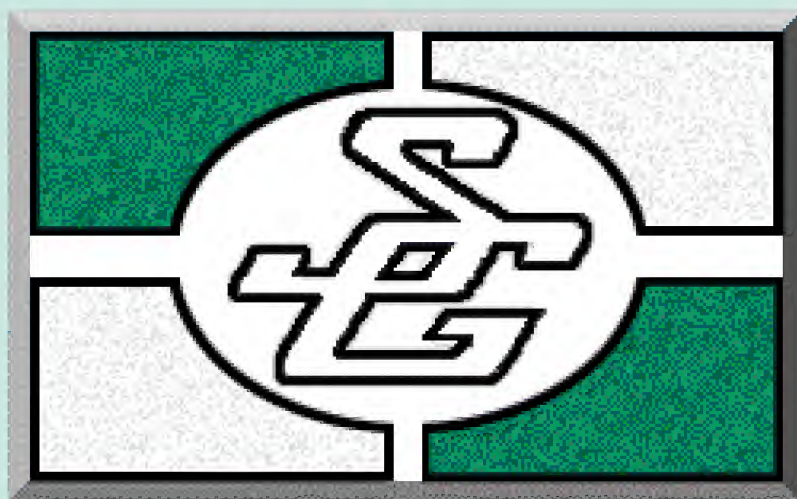


Illustration 2

Continued on page 14



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Continued from page 12

screws and grind the heads down to the diameter of the shaft, as you see in illustration two, leaving the phillips screwdriver slots so you can remove the screws.

Start, by screwing the headless screws into the outside cylinder, Then slide the cylinder into position on the door. Now you can let go of the cylinder and the headless screws will hold it in place while you time the tail piece of the inside cylinder and slide it over the headless screws.

This has both cylinders lined up.

Now just remove *one* headless screw and replace it with a permanent screw and snug it up.

Next remove the second headless screw and replace it with second permanent screw and tighten both screws.

This works for me, I hope it will be helpful to other locksmiths also. I use one-way security screws on double cylinder deadbolts, for greater security.

John W. Lee Jr.  
Pennsylvania

\*\*\*\*\*



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### Silca Keyblanks Winner

Marks locks are quite common in security storm doors. It is becoming routine for customer to want the security door lock keyed to their existing Kwikset locks. The customer usually wants the convenience of one key, but without the expense of new mortise cylinders.

The major difference between the Marks and Kwikset pin drop is the shoulder to first cut distance. Filing the marks plug approximately .030", as you see in illustration three, allows the pin drops to fall on the flats of a Kwikset key. By filing away a portion of the face of the plug, the key enters the plug further. The shoulder to center of first cut dimension is diminished by the amount of the plug face that is filed away.

### Plug Modification

Allows Kwikset key to fit  
Marks cylinder

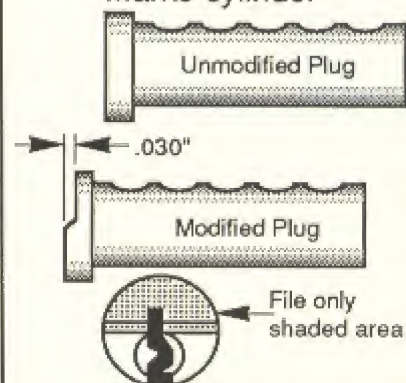


Illustration 3

File the top of the plug only, as the bowl at the bottom steers the tip of the key into the keyway

Before filing any cylinder plugs, disassemble both locks and examine the plugs with the key you will use. See your way through to the end before you start. You can't put the metal back after its filed away.

Leo Koulogianes  
Tennessee

\*\*\*\*\*

### ESP Pickset Winner

I have a Technitip for those locksmiths that are tired of picking up those so called "No-Spill" key hooks, for peg boards installed in their vehicles.

I just got tired of picking them up one day, and began looking around



the shop, to see what I could find, to solve the problem. I came across a tube of caulking, for sealing windows. I thought, "Hmm, maybe"

I coated the end of the peg board hook that went into the board, and replaced it into the peg board hole. I waited over night, and the caulking dried, making the hook solid in the board. If you have to remove the hook, the caulk can be easily torn out of the hole.

I have a white peg board, so the caulk, which is also white, doesn't stand out.

Enjoying driving without the mess.  
Thomas L Smith  
New Hampshire

\*\*\*\*\*

#### E-Z Pull GM Wheel Puller Winner

This simple tip may help the beginner locksmith in getting their name out to the public. Just punch a hole in your business card and attach a give away key ring.

Now you have a very low cost tag, which can be used to label various key sets. When installing a new key system, write on the back of the card to indicate the location of the locks which the keys operate. My customers have commented on this idea and thought it was a unique way of labeling sets of keys and handing out business cards.

Anthony Ardizzone  
California

\*\*\*\*\*

#### Fort Lock Display Panel Winner

We ran into a problem on a Sunday, when we were called to replace a mortise cylinder that had been damaged by vandalism. The door needed a 3/4" cylinder and all we had was a 1" in stock, and no cylinder rings.

We went to a hardware store and purchased a rubber trap seal ring. The type used to seal the chrome plumbing trap under the sink. The ring is the correct size to fit a mortise cylinder, and is 1/4" thick. The gray color of the rubber looks good on the aluminum door, and the resilient rubber material makes a good weather seal between the door and the cylinder. The resilience of the rubber also allows the cylinder to be adjusted for a rattle free fit, without special spacers and spring rings.

Richard Cerbasie  
Connecticut

\*\*\*\*\*

I have used the HPC 1200PCH Punch Code Machine for a year and I am pleased with its accuracy and portability. I have also used the HPC "Little Mac" to make up code cards with great success, however the manual lacks important information for creating code cards for tip gauged keys. The following is what I have learned by trial and error.

1 ) First, use the micrometer card that is opposite of what you would normally use for a shoulder gauged key. For example, if the tip gauged key is inserted in the machine right hand the use a left hand micrometer card; if the key is inserted from the left hand side then use a right hand micrometer card.

2) Second, you must compensate for the thickness of the gauge. The micrometer cards are designed for shoulder gauged keys which are gauged from the opposite side of the gauge. My gauge tip is .110 thick so I

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add this amount to each space. For example I use 1993 Chrysler spaces (Ilco key #P1793)

<u>Actual Space</u> (tip to bow)	<u>Add .110</u> (to compensate for thickness of tip/shoulder gauge)
1-.297	1-.407
2-.389	2-.499
3-.481	3-.591
4-.573	4-.683
5-.665	5-.775
6-.757	6-.867
7-.849	7-.959

Note: do not attempt to use the Best/Falcon tip Gauge for non IC core keys because the gauge will touch the slope rather than the tip of the key.

Mike Spencer  
Canada

\*\*\*\*\*

Supra Products Inc. modified their mechanical combination real estate lock box to a dead bolting model, distinguishable by a rounded plastic (vs. Flat metal) operating button.

This Technitip is for a non

destructive opening method for the new or old model locks. It is fast and leaves a neat finish with very little effort.

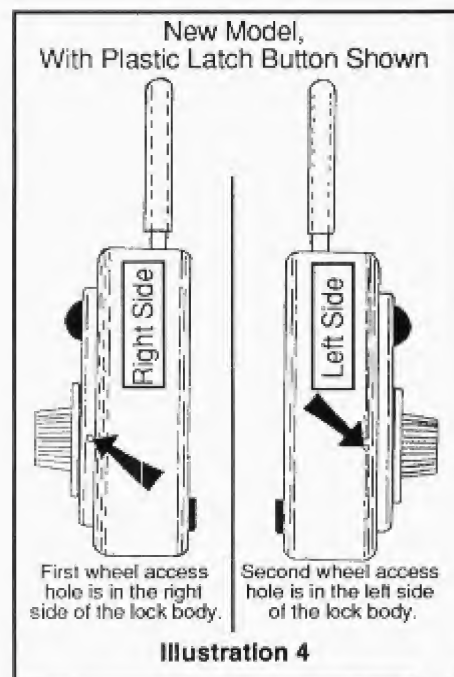
Supra's two shackle mounted combination key boxes can be opened quickly and with little or no repair needed by drilling two #60 holes, as you see in illustration four.

The older style box has two gates in each wheel, located three letters either side of the actual code letter. The newer plastic button model (1992 +) has a deadbolt, and wheels with single gates that correspond in location to the true code letters for the wheels.

The first wheel access hole can be drilled through the *right* side of the lock lid, about half way between the lid's face and the front of the box, and in line with the center of the dial. (See *illustration 4*.) The first hole will be "looking" at the edge of wheel number one.

Insert a wire and feel for the gate notch as you rotate the dial. When the wire goes into the gate, record the dial letter nearest the wire hole for the first combination code letter. (Use the clockwise gate and advance three alphabet letters for the old style.)

The second wheel access hole can



be drilled on the *left* side of the lock box, as you see in the illustration, about 0.1 inch back from the box front, and at the edge of the corner radius, in line with the dial center. This hole will be "looking" at the edge of the second wheel. This second drilling must continue beyond the box wall and on to barely penetrate the lock lid to access the second plastic



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wheel to repeat the gate search procedure for the second combination letter.

The third letter is found by sequential trial of the dial button. This will be the gate in the drive cam. The combination is made up of two numbers and a drop-in.

Walter D. Newton  
Ohio

\*\*\*\*\*

Here are a couple of tips for modifying standard size lock pin tumblers for use as pin and spring chamber plugs. On some padlocks such as Almont, the pins and springs are originally loaded into the chambers on the side of the lock case and then each chamber is plugged with a brass pin. If you ever make an error loading an Almont, or get one that will no longer open and can't be picked just look to the side of the lock and locate the pin chambers. Usually they can be seen under a good light and magnifier. Buffing it shiny or wire brushing it will sometimes expose the plugs. Once you locate the chamber

plugs, center punch each plug lightly. Drill the plug with a sharp 7/64" or 3/32" drill bit.

*Note: the bit must be smaller than the pin chamber hole. Drill each plug with light pressure. Many times the plug will spin and come out, stuck on the drill bit.*

After repairing the problem and reloading the correct pins and springs, you will need plugs for the chambers. The trick is to take about a size 160 brass top pin and hold it with pin tweezers standing on end on a flat smooth anvil surface. Hit the pin squarely with a hammer until it is the right diameter to snugly fit into the pin chamber. To get each plug to go into the chamber straight you can install the pin into a Dremel tool, and with the pin spinning take a fine flat file and put a slight bevel or taper on the tip of the pin. These tapered plugs will now be the correct diameter to be driven into each pin chamber. Leave the plugs slightly above the lock case and, with a flat file, dress all the plugs down even and flush with the lock case.

I have used this "Hammer the pin" tip many times to make larger diameter pins for retaining pins and other applications.

The Dremel tool can also be used as a miniature lathe to decrease the diameter size of lock pins, to make spool pins or to put ribs on the sides to make them more pick-resistant

Chuck Frazer  
California

\*\*\*\*\*

If you discover a Master padlock that has a secure keyway, or one that you just can't seem to find the proper key to fit, try this tip. Try a Corbin X1000GR (ILCO #). You will have to file the sides of the blank a little, and cut a little off the tip, but it will work fine in a pinch.

Juanita Ramsey  
Texas

\*\*\*\*\*



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# Newsmakers

## New Products and Industry News

### Rutherford Controls' Magnetic Locks

Magnetic Locks have long been the most popular method of electrically locking doors used by the access control industry. The ease of installation and use have made it so. However, they have sometimes been looked down on by some people because they tend to stick out in view and are not very attractive.



Two possible solutions are available.

One has been around for some time but made difficult and costly to get by some manufactures. This is a custom length housing. When mounted, the magnet will extend from one jamb to the other. This effectively makes the magnet less obvious as it tends to look like part of the frame. Now, this is available from some manufactures as a standard product. No longer must you pay and wait for a custom product.

Another possible way to go is a "mini-magnet". When you are locking interior doors, this is often for traffic control only and high security is not required. A magnet with smaller size and lower holding force could be used. In this case you may be able to save some cost as well as have a

better looking installation.

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### HPC's ALOA Kick-Off Open House/ Brunch

HPC welcomes all locksmiths and guests on Thursday, July 29th from 10 a.m. to 12:30 p.m. to visit its newly expanded manufacturing facility.

HPC's Open House will consist of a tour of the factory, a ticket for HPC's special prize drawing, brunch and HPC's \$1000 cash rebate book (only distributed at the brunch). The plant is located only ten minutes from the convention center area. Buses will be running to and from the Hyatt and the Holiday Inn.

If you visited HPC the last time ALOA was in town, there is still much more to see! HPC has recently purchased the building immediately adjacent to its original facility, which increases HPC's size by 80%. The buildings are now connected by a passageway that runs through the center of the buildings.

Don't miss this opportunity to see how your favorite HPC products are made, be eligible for the special prize drawing, have brunch and receive HPC's \$1000 cash rebate book.

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### Saddle-Mate By Reading Body Works

Reading Body Works is pleased to announce its latest innovation, the all-aluminum Saddle-Mate.

Constructed from heavy .063-thick diamond plate aluminum and dieformed side and bottom reinforcing ribs, the newly designed Saddle-Mate offers added strength and carrying capacity. Fully welded seams offers durability and an attractive appearance.

Designed to straddle the side rails of trucks to free the full-length of the bed for carrying long items, the Saddle-Mate also contains an aluminum slide tray with adjustable dividers.

Mylar protected weather seal, installed completely around the inside of gull-wing side lids, protects valuable contents. Reading's rugged, Slam-Action rivet-on locks with lock cylinders are coated with black powder finish and designed to keep moisture out.



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Continued from page 18

### EZ Lock®'s Keyless Lock

The EZ Lock® keyless lock fits on any interior or exterior standard hinged door and takes only minutes to install.

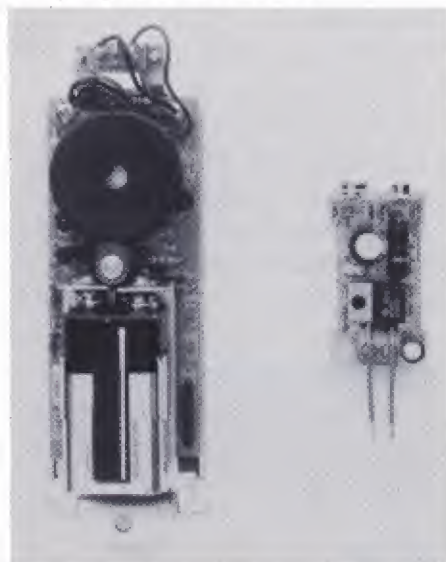
Installation is extremely easy. Simply cut a groove in the top and bottom of the door latch with the small hacksaw blade included in the package. Close the door and slide EZ Lock® onto the grooves. The door knob cannot be turned with EZ Lock® installed and the door latch cannot be forced open with a credit card or knife like conventional door locks!



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### NT Monarch's Exit Alarm

NT Monarch Hardware offers the EA exit alarm, a simple deterrent to unauthorized egress. A battery powered alarm that complies with life safety codes, the EA can be attached to any touchbar exit device. When the touchbar is depressed, a high pitched alarm will sound continuously for 10 minutes, signaling the exit has been violated. The EA can easily be switched on by key for authorized exit.



The EA can be easily converted from 9V battery to a hard wired application by pulling the battery and installing a hard wired exit alarm kit to battery clips and running wires through electric hinge or other low voltage transfer.

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### Squeeze Glove Box Tool By Briggs & Stratton

The new Briggs and Stratton squeeze glove box tool (plug popper) is the fastest tool available for removing the cylinder from the squeeze type glove box latch for Chrysler, General Motors and Ford.

This tool can remove the cylinder in less than one second with no damage to the latch. Contact your authorized Briggs and Stratton distributor for details.



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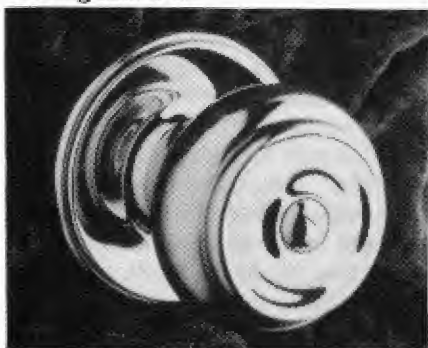
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## Phoenix Knobset From Weiser Lock

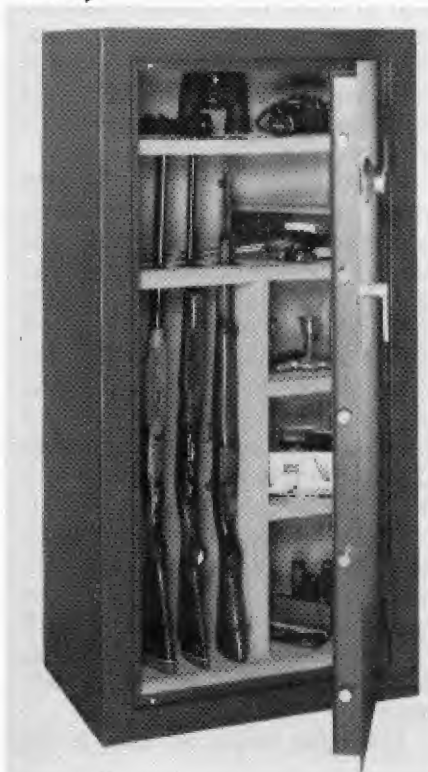
The versatile Phoenix knobset being introduced by Weiser Lock has a high end image that can complement a range of styles from colonial to contemporary... and is available at a reasonable price. This newest entry from Weiser combines style and function to provide the finishing touch for every door in the house, and is offered with either a turn-button or push-and turn knob locking function.



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## American Security Products Co.'s Fireliner

A new 1 hour fireliner is the latest addition to the American Security (AMSEC) line of gun safes. The fireliner, available in a retro-fit kit or installed at the factory, provides fire protection without compromising security.



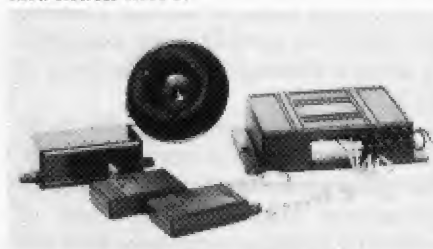
The fireboard has been tested to withstand temperatures of 1700 degrees; well above the rate at which most house fires burn. The liner is fully carpeted to beautify the safe, and protect you guns from scratching.

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## Delta Vehicle Security's Motorcycle Alarm

Delta Vehicle Security, manufacturer of automotive vehicle security devices, is proud to introduce the first full featured and dependable motorcycle security system designed, engineered and manufactured in the USA.

The "Stinger M's" advanced standard features include remote controlled arm/disarm and emergency triggering, the trigger memory, motion sensor, 3 way LED, chirp delete, emergency override, mini super high powered siren, flashing lights, remote pager option and much more.



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## Thorvie Key Cutter Sharpener

You now can sharpen most all key cutters that cut duplicate keys. These key cutters are used by locksmiths, hardware stores, many of the chain store outlets, or any place of business that cuts keys. This is an excellent

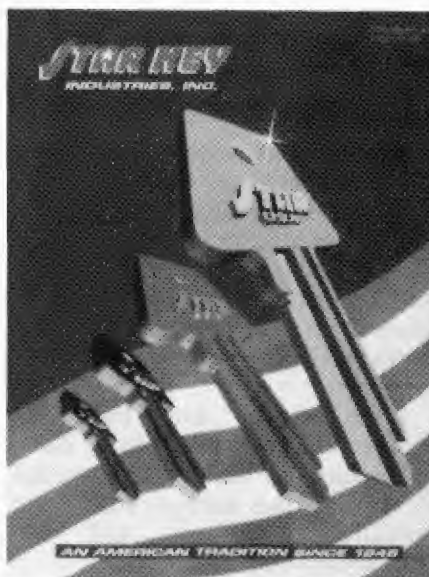


business to enter into. The prices you get to sharpen key cutters range from \$9 to \$27 for steel cutters and \$29.50 to \$75 for carbide cutters.

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## New Catalog By Star Key

Star Key Industries, Inc. announced that it has issued a new catalog. The new catalog displays Star nickel plated and nickel silver keys for the first time. In addition, the foreign car key blank line has been expanded, with new Acura, Honda, Nissan, Toyota and Hyundai blanks added. Recent General Motors "wide body" blanks are also included.



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## Medeco Releases New Padlock

Medeco Security Locks, Inc. has released a new padlock in its product line. The Controlled Entry Padlock is designed to provide entry level padlock protection with controlled entry as well as to be flexible for field required adaptations. Features that distinguish this padlock from others in its category are Patented Key Control and the field installable accessories.

Within its category the Controlled Entry Padlock features, provide new capabilities for customers. The 1 3/4 inch "Universal" body accepts both key retaining or non-key retaining plugs. Shackle guards, weather resistant covers and chains are attachable in-the-field options. The padlock is available with a brass or Medeco MVP cylinder.

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## Test Article #16

### General Security

To be tested in June 1993 issue.  
Details in insert in front of issue.

# Panic Exit Devices

*"This article is part of our Security Certificate Program. In this issue, the content will be tested."*

**E**xit devices are an everyday part of the locksmith's service. From schools to businesses, panic exit bars a standard mean of door security.

Having a thorough understanding of the different types of devices available and their installation requirements, makes the job easier and more profitable.

The two most common styles used today are the crossbar and the touchbar. The crossbar being simply a narrow bar attached at either end to lever arms that activate the latch on one side and spring support on the other. The touchbar is a compact lower profile pad that retracts the latch when depressed.

Both styles are built to accommodate three basic door applications, the standard commercial steel door, the narrow stile door (usually aluminum), and the commercial wood door.

These styles can be broken down further into rim devices, vertical rod devices (in surface mounted and concealed versions), and mortise lock devices. Illustration one is a visual representation of the style and type of exit devices manufactured today.

#### Panic Exit Devices

Wood	Narrow	Stile	Steel
Rim	Mortise	Vertical Rod	
		Surface	
		Concealed	

**Illustration 1. Panic exit devices are made to accommodate just about any application imaginable.**

It should also be noted that these devices also come with or without fire ratings, and with or without an exit alarm option.

The next series of articles will cover

installation or service for differing manufacturers of the most common exit device — the rim device.

As with the installation of any hardware, it is important to install equipment that meets the requirements of the application. Many times the devices may need to be fire rated, and, of course, consideration must be given to ADA (American's with Disabilities Act) standards. We will cover very briefly these subjects, but first it should be noted that compliance to standards is always determined by the body of jurisdiction.

Basically, this means that for those areas or applications under question, the government agency, department or personnel that has the duty of enforcing building compliance laws will have the final word on what and how a device can be installed. Cities, townships, villages will all differ as to who has this responsibility. For example, in the city of this writer, when a new building is being constructed, the city building inspector and fire inspector have final jurisdiction. On buildings that are complete the city code enforcement department and the fire inspector have final jurisdiction.

This, of course, does not mean that there is always an understanding by the governing agency of the application or of any extenuating conditions. But, they are the ones who give the "yea" or "nay."

So, while, except in extensive renovation or large new construction, there may be little reason to worry about compliance problems, it is wise to know who to contact should any questionable circumstances arise.

While volumes can be (and have been) written on fire door hardware and its proper application, the biggest question for the locksmith is — "When do I need it?"

Again, outside of minor exceptions, the answer is simple. If the door is

rated for fire the hardware must be rated for fire. It should be noted, however, that a "Fire Exit" (more correctly called an emergency exit) is not the same as a "Fire Door." A fire exit is the path that is used for building evacuation should there be a fire or other emergency. The doors and hardware for these doors in this path may or may not be fire rated, although in most places they do need to meet Fire Life Safety Standards (National Fire Protection Association, NFPA 101) and ADA Standards (adapted from guidelines issued by various standards institutes, including ANSI A117.1 standards). These doors and hardware are simply part of a route used for making an emergency exit.

Fire doors, on the other hand, are used to create fire breaks (a barrier designed to stop a fire from spreading from one area to another), and as such, are built and rated to withstand the heat of a fire for a predetermined amount of time without breaking down. Of course, a chain is only as strong as its weakest link. This is why the correct rated hardware must be used with a fire door.

ADA compliance is another concern when installing any hardware, including exit devices. While ADA standards reflect the total condition for access and egress, including opening and holding pressures and threshold height, the two measurements we are most concerned about for installing an exit device is the mounting height and the clear width opening. Fortunately, ADA makes these measurements very clear.

The mounting height shall be no more than 48", and the clear width opening shall be 32". While the mounting height is measured from the ground, the clear width opening, although simple to determine, is more involved.

The clear width opening is the



unobstructed opening dimension when the door is opened to 90° or perpendicular to the opening. Unobstructed means just that. Door stops and hardware are included as obstructions.

Now, typical commercial door widths are 36", 42", and 48". A frame for a standard steel 36" door is 36" in width. The door stop is typically 5/8" high. Because there is a door stop on both sides of the frame, the distance from door stop to door stop is 34-3/4". This is not the clear opening, however. (See illustration 2.)

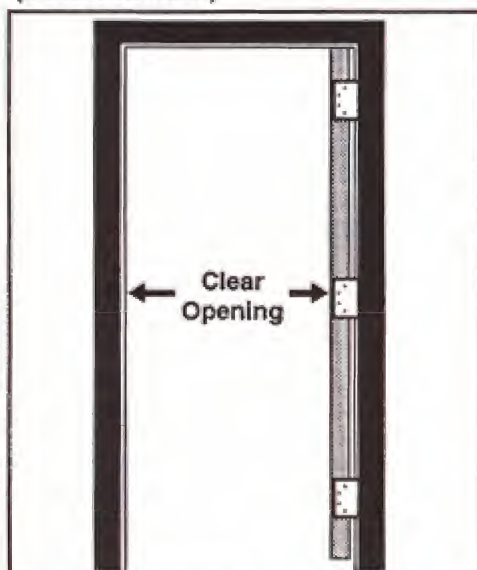


Illustration 2. The clear opening of a door is only the unobstructed area of the exit and not the width of the door or frame. The hardware on the door is considered an obstruction and the projection of that hardware must be subtracted from the opening width.

A typical commercial door is 1-3/4" thick and attached to typical 4-1/2" butt door hinges. With this door open to 90°, it protrudes from the frame into the opening 2-5/8", 2" further than the door stop on that side.

Therefore, without any hardware on the door yet, if we measure from the door stop on the strike side of the frame to the inside face of the door on the hinge side of the frame, our opening is now reduced to 32-3/4". Already we can see that any hardware placed on this door exceeding a 3/4" projection (how far it sticks out from the face of the door) will violate ADA. This, of course, includes almost all hardware. Again, this too is dependent upon the enforcement policies of the enforcing agency.

(To obtain a copy of NFPA 101: Life



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Safety Code or any other NFPA standards, write to NFPA, P.O. Box 9101, Quincy, MA 02269-9904, or call 800-344-3555.

For more information on ADA compliance contact Office on the Americans with Disabilities Act, Civil Rights Division, US Department of Justice, P.O. Box 66118, Washington, DC, 20035-6118.)

With the preliminary considerations out of the way, let's now consider the operation, parts and installation considerations of a device.

One of the most confusing aspects in working with exit devices is

determining function. As locksmiths, we are familiar with terms like "Entrance, Storeroom and Classroom functions." Distributors and manufacturers are equally as familiar and dependent on these terms. Confusion often arises, however, when we find variations in functions with the same name.

For instance: The basic operation of the nightlatch function is that the door is locked until released or opened by key, and then must relock for the key to be removed.

Sounds simple enough till you realize this same operation is

achievable through various means with different styles of trim.

To accommodate such variations, ANSI does not assign these terms to exit devices, and instead assigns function numbers to each variation. Nightlatch variations by ANSI standards are covered by function numbers 03, 06, 09, and 12.

Referring to illustration three, you can see that in all of these function numbers, the device is relocked before the key can be removed. What changes is the trim used. For instance, the 03 function has the latch retracted directly by the key/lock, the 06 function has a thumb piece that is locked and unlocked, 09 is a knob or lever that is released and relocked by the key, and the 12 function is a turn piece that is controlled by the key.



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ANSI #	FUNCTION
01	Exit only
02	Enter by trim when bar is locked down.
03	Enter by trim when key retracts latch. Latch locks when key is removed.
04	Entrance by trim when key retracts latch or sets latch in retracted position.
05	Entrance by thumb piece. Key locks or unlocks thumb piece
06	Entrance by thumb piece when released by key. Thumb piece relocked when key is removed.
08	Entrance by knob or lever. Key locks or unlocks knob or lever.
09	Entrance by knob or lever. Key unlocks knob or lever. Knob or lever relocked when key is removed.
11	Entrance by turn piece. Key locks or unlocks turn piece.
12	Entrance by turn piece. Key unlocks turn piece, relocked when key is removed.

Illustration 3. Partial list of the ANSI number and function assignments for panic exit devices.

Manufacturers, while they may have a device that operates under each of the functions, may not have units that



ascribe to a specific variation of a given ANSI function. The 06 function, for example, stipulates a nightlatching thumb piece. While many manufacturers offer a nightlatch function with a handle pull, some do not offer that function with a thumbturn.

Now, all this is said not to confuse you or cause undo concern with functions, trim and numbers. Manufacturers have been working around ANSI, as well as other standards institute, numbering systems for years. It is simply brought up to make you aware of the variations in functions for the exit device. Having a clear understanding of the functions and variations with trim helps develop a clearer more definitive solution to differing applications.

As one foot note to functions; doglatching is often a function common with exit devices. Most operate by locking the device in the open position through the use of a dogging key, usually an allen wrench, though standard and high security keys are sometimes used. This function is not used on fire rated equipment, as the unit must latch at all times.

With functions and trim covered, we

can turn our attention to the device itself, and some of the specifications to look for.

All rim devices consist of three major components: the inside bar and head (the mechanical latch portion), the strike, and the trim.

It should be mentioned here that any in-field modifications, repair or retrofitting done to a fire door should be done by the manufacturer or a factory authorized technician. Any alterations to a fire door outside of those done by the manufacturer, voids the fire rating. If a fire door needs new hardware, replace it with the same or equivalent hardware. If the door needs repair or major modifications, order a new door prepped to the new hardware.

Trim choice is dependent on the taste of the customer, current door condition, as well as the function of the device. Previously existing hardware and/or a door that is prepped for another type of hardware may require trim that covers pre-existing holes, or may require minor door repair.

For non rated doors: If the device is going onto a fresh, uncut door, then accurate door prep is critical. Properly aligning and cutting the necessary

mounting holes makes the job faster and more profitable. Installation techniques will be covered in a later article.

There are basically three common types of rim device strikes: the standard surface mounted jamb strike, a strike for a pair of doors with one inactive door; and a strike for a pair of doors with both doors active. When making an installation onto a narrow stile frame, make sure that there is enough frame exposed (called reveal) to properly attach a strike. When selecting the proper strike for the application, make sure that the correct fasteners are also chosen.

Finally, check the dimensional specifications of the door. Door width is the first consideration. Most rim devices are cut for 36" and 48" doors. If the doors are shorter than the device, most can be cut-to-fit in the field using a simple hack saw.

On a standard, unprepped door, most any rim device can be applied. On an unprepped narrow stile door, make sure that the stile is wide enough to accommodate the mounting of the device head, allowing for the appropriate backset.

*Continued on page 80*

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*Test Article #17*  
**Automotive**  
**Security**

To be tested in June 1993 issue.  
Details in insert in front of issue.

## GM MATS Column

*"This article is part of our Security Certificate Program. In this issue, the content will be tested."*

In 1992 GM introduced a new column in its B body (Chevrolet Caprice, Custom Cruiser wagon and Buick Roadmaster) automobiles. It expanded its use to the 1993 full size G vans and C and K trucks (Blazer, GMC Yukon and Sierra, and the Suburban). The column by appearance is almost identical to the standard tilt column we have seen for years, although minor variations can be seen at the space between the steering wheel and the column. Where MATS systems are employed, the steering wheel lock plate cover, normally plastic with squared edges, is metal with a radius edge.

The differences, created to guard against column attack, are more

apparent once we get to the inside of the column. Following in the footsteps of the VATS (vehicle anti-theft system) acronym, the new column has been designated the MATS column, or mechanical anti-theft system.

Not visually different is the ignition cylinder. A newer version using a stronger sidebar is being used, although it is dimensionally the same. These changes were made to prevent the forcible turning of the plug. The Briggs and Stratton part numbers are: Chrome - 701759, Black - 701986. The standard bolt retained ignitions (chrome - 609530, black - 700580) can be used if necessary.

Another change is the increased

thickness of the sector gear side of the column. This was done to make it harder to gain access to the sector gear and ignition switch rod by breaking through the column wall, a typical method used in GM vehicle theft.

The change that is most visible, at least to the locksmith, is an armored ring placed just above the steering wheel lock plate. This plate is included to prevent the surreptitious depression of the steering wheel lock bolt, allowing the steering wheel to be turned.

In order to work on or remove the ignition cylinder, it is necessary that this armored plate be removed. Outside of a few new tools and an

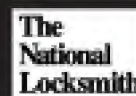
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added step to the column teardown procedure, ignition removal is identical to the standard GM column. If the vehicle you are working on includes an airbag, follow standard procedure for removing the module before proceeding.

While the procedure can be completed without additional tools, we do recommend the use of two tools to expedite the armor plate removal: the spline tool or steering shaft socket #BT9213 and lock bolt depressor #BT91108, both available from Borroughs/Kent Moore.

**Column Disassembly:**

1) Disable and remove the airbag module if applicable.

2) Remove steering wheel using standard GM steering wheel removal procedures. (See photographs 1 and 2.) At this point the armor plate and steering wheel lock plate are exposed. (See photograph 3.)

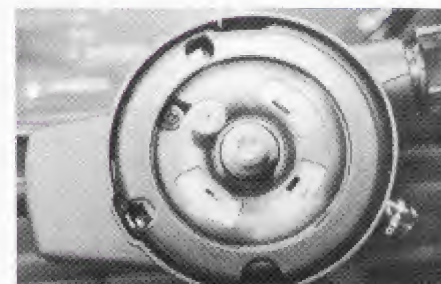
3) Remove the armor plate. On the plate there are holes at roughly the 11 o'clock and 7 o'clock position. (See photograph 3.) These holes give access to the plate's Torx T15 mounting screws. The screws and the plate must be removed before the rest of the



1. Steering wheel of the 1993 K body Blazer.



2. Remove the steering wheel using standard GM procedure.



3. The armor plate covers the steering wheel lock plate and lock bolt.

column can be reached for service.

In order to remove both the screws and the armor plate, however, the steering wheel lock plate must be aligned such that specially enlarged slots in the steering wheel lock plate expose the mounting screws through the holes. (See illustration 4.) When not aligned properly, the fins of the steering wheel lock plate block access to the screws.

To align the steering wheel lock plate, place the BT9213 spline tool over the steering shaft. Make sure that the notch on the shaft aligns with the block tooth (the area without a spline) of the shaft. (See illustration 5.) Turn the shaft to alleviate any pressure being applied to the steering wheel lock bolt.

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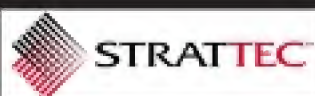
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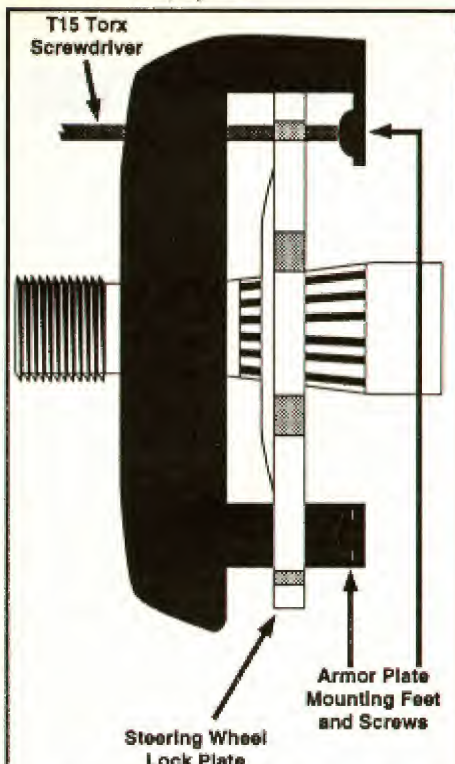
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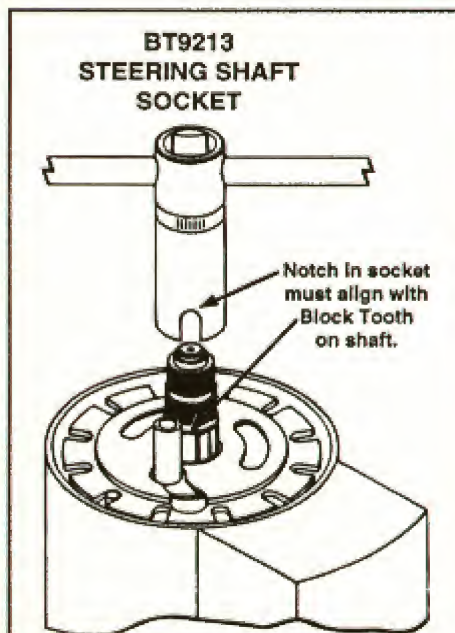




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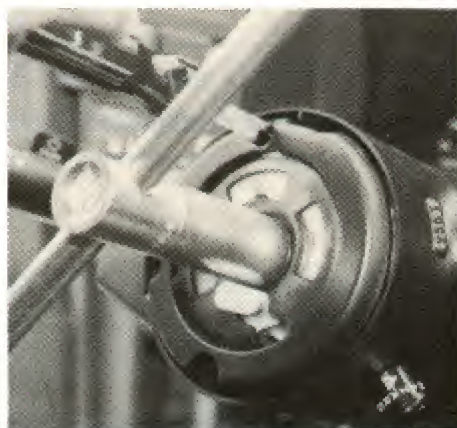


**Illustration 4.** The mounting feet and screws of the armor plate are hid behind the steering wheel lock plate. In order to remove the armor plate it is necessary to align enlarged slots in the steering wheel lock plate with the mounting feet and screws of the armor plate.

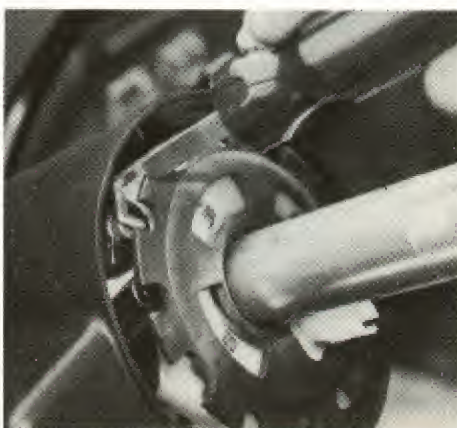


**Illustration 5.** Use the BT213 Steering Shaft tool to turn the shaft and steering wheel locking plate to the right position. The notch in the tool must align with the block tooth (the non-splined area) of the steering shaft.

Insert the BT91108 bolt depressor into the 11 o'clock hole of the armor plate and depress the steering wheel lock bolt. This releases the steering shaft so that it can be turned. (See photographs 6 and 7.)

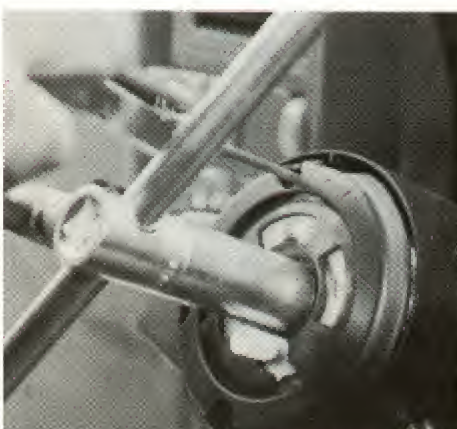


**6.** Inserting the BT91108 lock bolt depressor into the access hole.



**7.** With the armor plate removed, see how the lock bolt depressor works.

Turn the shaft such that the block tooth lines up at the 7 o'clock position. The shaft does not lock into place, and may have to be held in position. At this point larger slots on the steering wheel lock plate align with the holes and



**8.** Once the steering wheel lock plate is in position, a T15 torx screwdriver is used to remove the armor plate mounting screws.



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Continued on page 81



## Test Article #18 **Electronic Security**

To be tested in June 1993 issue.  
Details in insert in front of issue.

# Electronic Hardware Ratings

*"This article is part of our Security Certificate Program. In this issue, the content will be tested."*

As with any hardware, when choosing electrical hardware it is important that it be up to the task or application. Using improperly rated equipment for any application not only leaves the integrity of the completed job in question, but also reflects poorly on the professionalism and competency of the installing company. Of concern to the locksmith, then, are the ratings given to equipment and just what these ratings mean.

There are generally four ratings that concern the locksmith when choosing hardware: Fire, Grade 1, Grade 2 and Grade 3. These ratings are minimum guides when choosing the hardware and a more thorough inspection of the equipment should be reviewed on each application. Following is a brief description of the grades and their differences.

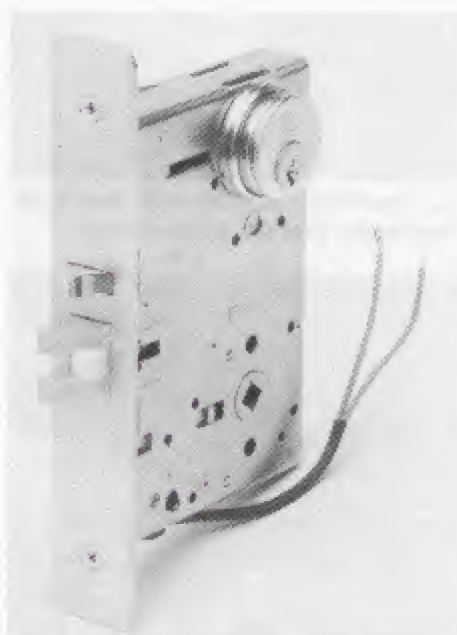
It should be noted that hardware is graded at the level of its lowest tested attribute. For example, a strike may test well above the minimums for a Grade 1 rating in holding force and cycle life, yet only meet the Grade 2 requirements for the materials used. The highest this device can be rated is Grade 2.

Of all ratings, toughest by far is the Fire rating. Hardware in this category are labeled A for 3 hour doors, B for 90 minute doors, and C for 20 minute doors. The minimum holding (static) force is 2000 pounds and cycle life is 500,000. The unit must be made of a single, non-plated and non-corrosive material.

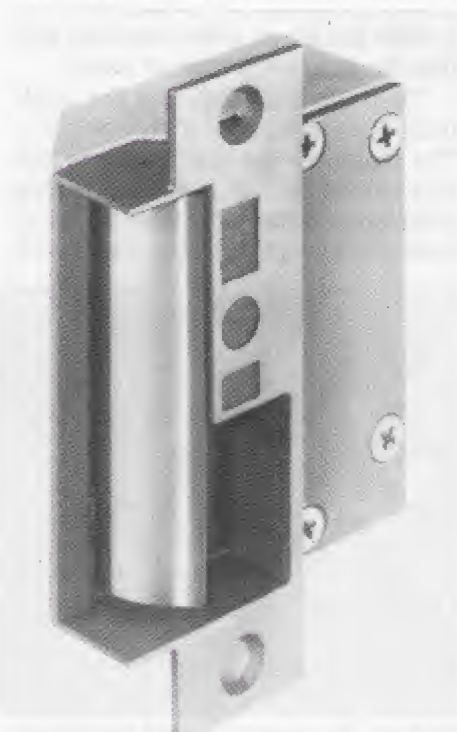
Grade 1 hardware must hold a static force of 1000 pounds and have a cycle life of 500,000. The unit must be made of a single non-plated and non-corrosive material.

Grade 2 hardware must hold a static force of 500 pounds and have a cycle life of 300,000. The unit can be made of plated materials.

Grade 3 hardware must hold a static



Most door hardware can be electrified.



Electric strikes are the most common electric hardware.

force of 300 pounds and have a cycle life of 100,000.

Remember these are short summaries of the rating requirements for the different grade hardware. For further clarification and classifications refer to the hardware specifications as listed by ANSI 156.5. Also, keep in mind that equipment may have extremely high ratings in areas that concern your application, but hold a lower grade due to factors that are not relevant your circumstances.

Now, why are these ratings important to the locksmith?

When installing electric hardware onto a labeled fire door it is essential that the hardware meet or exceed the rating required for the opening. Fire rated hardware is labeled A for 3 hours, B for 90 minutes, and C for 20 minutes. If the door the hardware is being placed onto a commercial B rated door, then the hardware must have at least a B rating. (The reference manual Hardware for Labeled Fire Doors (1993) by Door Hardware Institute includes a general overview of the code and labeling requirements, as well as a listing of approved equipment.)

When deciding on how heavy a device to use, it is important to fully understand the application and under what conditions the unit needs to operate. Questions regarding traffic flow (light, medium, heavy), the type of people using the hardware (is the hardware going into a convent or correctional center), the environment (interior or exterior), and the structural makeup of the door and frame must be answered. This, of course determines the grade hardware that needs to be used.

Two grade dependent ratings that are important to locksmiths include the cycle life rating and the holding force rating. Both ratings share a direct relationship to the hardware that should be chosen for a job.



The cycle life of a device tells you how much wear and tear a unit can handle under normal use. A Grade 1 lock/strike must operate at least 500,000 times without failing. A Grade 2 unit must operate 300,000 times consecutively without failure. And a Grade 3 must operate 100,000 times without failure. This type of testing is important when the decision of the hardware is based on traffic flow.

The holding force of a lock/strike, on the other hand, describes more closely how well the unit can withstand pressure place upon the holding mechanism of the lock, similar to an attack. The numbers given are for static loads and not impact loads. A static load is when a force is gradually applied to a door with the unit in place. This force is increased until the testing level is attained, and the unit must hold that force for a given amount of time.

Another type of load is the impact load. This type of load is a quick, sharp blow to the door at a given force, and resembles more closely an attack by kicking. While impact tests are done on locks/strikes, the results are not a requirement for grade levels.

As stated earlier, to meet Grade 1

standards, the lock/strike must withstand a static force of 1000 pounds. A Grade 2 lock/strike must withstand a static force of 500 pounds. And a Grade 3 lock/strike must withstand a static force of 300 pounds.

With respect to application, it would be nice to always be able to use Grade 1 hardware, however, it isn't always practical or necessary. For instance: The receptionist of a small business wants an electric strike installed onto a door that opens into the main office area. The door and frame are hollow wood core, and residential grade door knob and hinges are used. Traffic flow is medium.

Putting in a Grade 1 strike would probably be overkill in this situation. The ratings of the strike far outweigh any ratings the door and its hardware may have. On the other hand, a Grade 3 device may not handle the traffic flow very well. A Grade 2 is probably the best choice for this application.

It's important to inject here, that choice in hardware must be based on the application and not on how much it costs.

Granted, the first words from a customer's mouth are, "How much does it cost for you to ...." And from the

start the locksmith is forced to work backwards, seeing if we can force a lower rated product into a higher rated application based on price.

The problems start, of course, down the road. Premature failure or improper operation may be the least of the customer's complaints. Should property damage or theft or personal injury result from an incorrect application, we all know who the customer is going to turn to for compensation.

Determining the proper grade hardware to use is only part of the battle in hardware choice. The hardware must also fit. Of course, the type of equipment that is going to be used is going to determine the dimensions we need to know. An electric strike, for example has many dimensions that are specific to the use of an electric strike. An electromagnet or electric mortise or cylindrical lock also have specific dimensional requirements for their installation.

Whether a piece of hardware fits, however, is dependent on three conditions of the installation: the frame, the door, and hardware compatibility. And it is these conditions we will look at next month. §



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## Fort Lock Corporation's 'Buy The Best...Ride the Best Promotion' The First In a Series of 'America First' Contests

Fort Lock Corp. has been receiving excellent response to their *Buy The Best...Ride The Best* promotion. Here's how the program works. The locksmith earns one point for every \$10 in Fort Lock Multi-Function® locks he purchases. This is intended to reward you for your loyalty to American-made Fort products.

A drawing for some terrific prizes will be conducted on Saturday at the ALOA show in Chicago. A hopper will contain tickets which are traceable back to the locksmiths who have participated. Each point you receive during the promotion (which closes at midnight on June 30, 1993) equals one ticket. Therefore, if you purchase \$1,000 worth of qualifying products, you will have 100 tickets in the hopper.

First prize is a \$7,400 Harley-Davidson XLH 1200 Sportster Anniversary Edition Motorcycle. Fort Lock is proud to offer this prize, manufactured by one of their long-standing OEM customers. Second, third, fourth and fifth prizes will consist of Fort Lock products and merchandising displays with a combined value exceeding \$15,000.

Spokesman John Hutzenlaub notes, "Sales levels are up over fifty percent due to the promotion. Our distributors have added numerous new products to their shelves. The new Apex level one locks are now carried by over 80% of our distributors keyed alike to following the popular Chicago key codes: PL505, PL910, 6021, 6022 and 7302.

When attending the ALOA convention, locksmiths are invited to drop by the Fort Lock Corp. booth. You will be able to fill out a ticket at no charge and drop it into the hopper, and take a chance on winning a prize.

This promotion is part of a continuing *America First* campaign launched by Fort. The campaign features one of their made in America OEM manufacturers. Fort will be offering additional promotions in the future highlighting other made in America manufacturers.

"The overall commitment of Fort Lock," says Hutzenlaub, "is to be strong on security for America and American workers."

For more information, contact your Fort Lock distributor, or Fort Lock, (708) 456-1100.

### Electronic Locking Products Review Section

#### ACSI Offers Hinge Modification

Architectural Control Systems, Inc., a full service designer and manufacturer of high quality access control systems, offers electric hinge modifications for virtually any manufacturer's hinge, enabling customers to achieve substantial cost savings and delivery advantages.



Circle 344 on Rapid Reply

#### Adcor Improves Profit Reporter

Adcor Electronics announces improvements to its innovative Profit Reporter opening/closing reporting system that greatly enhance its value to independent alarm dealers. New digital formats mean faster processing of incoming O/C signals. One ASU can now support double the number of previous subscribers. What's more, PR's new lower price means improved cash flow. PR allows independent alarm dealers to prepare O/C reports themselves, while still using their contract monitoring service to process response alarms.



Circle 345 on Rapid Reply

#### Cardkey's Pegasys 400

The Pegasys 400 Access Control System from Cardkey provides a truly cost effective multiple door solution for small to medium size installations. Pegasys 400 is a PC-based system that can operate on a customer or Cardkey supplied personal computer (PC). By making extensive use of distributed processing, the Pegasys 400 integrates access control, alarm monitoring, and equipment control into a single system. This system can satisfy installation requirements for control of up to 4096 doors.



Circle 346 on Rapid Reply

#### Detex Thriftlock™ Protects Exits

Detex alarmed exit control locks are affordable, dependable, rugged, and provide protection for emergency egress by preventing unauthorized entry from the outside while announcing unauthorized use with a high decibel directional horn.

The battery powered ECL-8010 and ECL-8015 Thriftlock™ relatching exit control locks offer economy and electronic reliability. Ideally suited for low traffic, remote location applications where AC power is not available, the ECL-8010 and ECL-8015 alarmed relatching exit devices are micro-processor-controlled for dependable, instantaneous response.



Circle 347 on Rapid Reply



### Door-Aid™ Satisfies ADA Requirement

Door-Aid™ is an economical, easy-to install, power door opener with activating buttons on both sides of a door that allow physically-handicapped individuals to open a door with just a touch of a button.

Simple door-frame installation requires no components attached to door. Completely adjustable, Door-Aid offers high-torque, maintenance-free electronically controlled DC motor operation.

The unit can be mounted on left or right side of door frame for left-or right-handed use and it easily adapts to most applications.



Circle 350 on Rapid Reply

### DoorKing Debuts One Touch Calling

DoorKing is announcing a major upgrade to its model 1814 Electronic Directory Telephone Entry System. The 1814 now features "One Touch Calling" which enables a visitor to simply push a single button, rather than enter a three digit code on the keypad, to establish communication. The big 1/2" characters on the single line LCD display make the Model 1814 one of the easiest and simplest telephone entry systems on the market for visitors to use.



Circle 351 on Rapid Reply

### DynaLock Corp's Delay Egress System

The 3101 Series Delay Egress System from DynaLock Corp prevents unauthorized exits. The door is normally closed and latched by the existing mechanical door hardware and also magnetically secured by the #3101 Lock. Attempting to exit, by applying 15 lbs. or less pressure to the door, will cause the door to become unlatched, and activate the #3101 delay egress sequencer. The audible and red LED will then pulsate for 15 seconds, and after the time delay has lapsed the lock will release.



Circle 252 on Rapid Reply

### Essex Makes Keyless Entry

With the recent development and introduction of the model KE-300, Essex Electronics provides a durable and flexible single door access system. This sophisticated microprocessor based system can be adapted to meet unique and demanding applications. Providing access privileges for up to 100 individuals and the ability to restrict access during certain hours, the system knows when to allow the door to open, how long to leave it open and when an unauthorized person is attempting entry.



Circle 353 on Rapid Reply

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### GTO's Affordable Gate Opener

An inexpensive automatic gate opener offered by GTO, Inc., makes such systems just as affordable as electronic garage door openers. With a suggested retail price of under \$500, the "Mighty Mule" comes as a complete, reliable system designed for easy 1 hour do-it-yourself installation with ordinary tools.



Circle 354 on Rapid Reply

### The Gyro Tech GT 1200/GT 1250

The GT 1200 and GT 1250 door systems are designed to aid the healthcare professional in the I.C.U./C.C.U. areas. These units provide healthcare professionals with the efficiency and access needed for medical equipment and patient transportation. The doors are able to "break-away" and swing open if a larger opening is needed. When the door is in the "swing open" position it doubles the entrance opening of the sliding door.



Circle 355 on Rapid Reply

### Intelligent Controls Stand-Alone Reader

The 870sx™ is a fully contained stand-alone card reader designed for full time door access management from Intelligent Controls Inc. Included in the 870sx™ package is your choice of insert or swipe style covert bar code card reader, the power supply, programmer, cable, and start-up card key with card registration log.

The 870sx™ is capable of learning and storing up to 250 uniquely encrypted BarCode™ ID cards. Issue these cards to individuals for permanent, daily, weekly, or monthly access.



Circle 356 on Rapid Reply

### Javelin Introduces Quest Plus

Javelin's Quest Plus is a mid-size security/surveillance system. CCTV surveillance and control supervised alarm point monitoring and auxiliary device control are integrated using advanced man/machine interfacing. A variety of international languages are available to further simplify system operation and programming.

Quest Plus offers simple control of all system operating and programming functions using on-screen interactive menus with click and run pick lists.



Circle 357 on Rapid Reply

### Marlee's Advantage Telephone Entry

Marlee Electronics' Advantage model telephone entry system delivers a simple, professional method of providing entry control. It uses existing telephone lines to allow tenants to speak with visitors and to allow entry. The installation involves only 6 wires: 2 to the 12 volt plug-in transformer, 2 to the phone line (A standard USOC RJ-11C connector from the phone company,) and 2 to the door strike.

The Advantage is available with a hand set or hands-free, and features a built-in lighted directory. It has weather-resistant 16-gauge steel construction and accepts tenant's touch-tone or pulse telephone signals.



Circle 358 on Rapid Reply

### Marlock's Solitaire System

The Marlok Company's Solitaire system revolves around an optical cylinder that "reads" special metal keys that replaces conventional pin tumbler mortise, rim, and knob cylinders.

Durable metal keys operate the cylinders. However, each user and key have their own code allowing access based on the needs of each user. Additional control is achieved through programming time zone and daily restrictions.

Solitaire handles 3500 different user codes and an audit trail that records the last 2000 action. Battery life should exceed 14,000 operations and are inexpensive to replace.



Circle 359 on Rapid Reply

### MRL's Crypto Code Access Control

MRL continually introduces low cost products for the stand-alone access control market. The CC-4500 offers stand-alone card and/or keypad access for up to four doors with many of the features found only in computer based systems. With a code capacity of 2000 users and a history buffer of 1000 events, the CC-4500 can handle most small to medium size installations at a very affordable price.

The CC-4500 has three keypad choices and accepts most card technologies including magnetic stripe, wigand, and proximity.



Circle 360 on Rapid Reply

### NCS Access Door Manager

NCS Access Control announces the release of the Dual Door 451 Access Point Manager (APM). The 451 APM can be networked to provide many of the functions normally found only in computer-based systems.

The 451 is unique in that it can be used as a stand-alone door manager and also networked to control up to 32 doors, with each door being completely independent. The 451 APMs on a network communicate with one another to control features such as global in/out status of individuals and distributed event processing.



Circle 361 on Rapid Reply



### Nel-Tech's Stormpad™ 6SP

Nel-Tech's Stormpad™ Model 6SP all-weather digital key-pad performs in the harshest outdoor and indoor environments. Impervious to rain, snow and dirt, these keypads are ideal for access control of employee entrances and delivery doors. Lighted keys provide night illumination and solid machined aluminum case resists tampering.



Circle 364 on Rapid Reply

### OSI's Omnilock Digital Lock

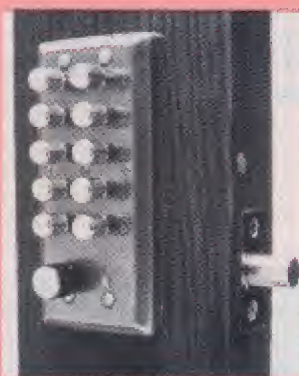
The Omnilock® 50 digital lock is the newest member of the Omnilock family of electronic access control systems from OSI Security Devices. Omnilock 50 is code operated, eliminating the need for keys or cards. Codes can be restricted individually or in groups. Features include: patented motor locking mechanism, 50 user code capacity, variable length PIN's five security levels, three lock functions, 250 event audit trail and five year/100,000 operation battery life.



Circle 365 on Rapid Reply

### Preso-Matics's Combination Locks

Preso-Matic presents their new two-sided combination locks, which unlock by combination from the inside or outside of the door. With this mechanically operated unit, the exterior of the door is unlocked in the same manner as the standard Preso-Matic pushbutton locks, by pressing the correct 4 or 7 digit combination. It unlocks automatically when the last digit is pressed.



Circle 366 on Rapid Reply

### Rokonet offers Motion Detectors

Rokonet Industries manufactures a full range of high quality motion detectors for locksmith and alarm installers. Rokonet's vast array of attractively-designed detectors include dual and quad models, a more sophisticated combined passive/microwave technology unit, and a 360 degree ceiling mount unit. In addition, a variety of interchangeable lenses are available including long range, pet alley and other special application lenses. And, all Rokonet detectors operate at 12 Volts DC.



Circle 367 on Rapid Reply



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### Securitron BPS Power Supplies

Securitron announces its BPS series of regulated DC battery charging power supplies. 12 separate models are available ranging from 1 to 15 Amps at 12 volts and 1 to 10 Amps at 24 volts. The units are furnished in wall mount hinged steel enclosures with safety warning lamps on the front exterior. Sealed lead acid battery packs may be added to provide automatic backup power or the supplies may operate independently. All units greater than 1 Amp capacity include 8 separate circuits with individual circuit breakers to permit multiple devices.



Circle 368 on Rapid Reply

### The Sentrylok Product Line

Sentrylok introduces their product line of alarmed panic devices, electric and electromagnetic locks.

The Model 24 alarmed panic device is a rugged UL Listed panic device featuring an exit arming delay, a low battery alert, dogging device, their exclusive combination single/double door strike. The Model 24 is also available as a non-alarmed panic bar. Both are available in silver and duronodic finish.

The Model 930/940 electric deadbolt is ideal for use in areas where you want to restrict traffic flow or lock and unlock an entrance remotely.



Circle 369 on Rapid Reply

### Trine Offers Wireless Products

Trine Products introduces its complete line of wireless products for use in commercial and residential dwellings.

The #33-9 is a completely wireless intercom that features a weather resistant external unit with a range of 60 feet and is powered by a 9-volt battery. The internal unit is powered by a plug-in adapter, which also acts as an antenna; multiple channels are available.

The #33-1, #33-2 and #33-3 are wireless door annunciators with ranges of up to 150 feet and 64 security codes. All devices are battery operated except the #33-3 receiver, which plugs into any 120V outlet.



Circle 370 on Rapid Reply

### Ultrak's New K-450 Chip Camera

The K-450 is a 1/3" CCD chip camera that offers the newest 1/3" chip available (512H x 492V pixels). It has a sensitivity of 0.2 LUX and 425 lines of horizontal resolution. A phase adjustment is also included for multiphase power systems. This allows for phase adjustment after the camera has been installed, for roll free switching and recording. The camera offers either electronic internal iris, or a switch that allows the connection of standard C/CS auto-iris lenses.



Circle 371 on Rapid Reply



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## Mini Section...

## Decorative Hardware

*"In this section of the magazine, you will find articles about some of your favorite lock manufacturers."*

### Baldwin Hardware

The name Baldwin is well known for fine brass reproductions of candlesticks, lighting and table accessories but, few are aware of the full range of hardware products manufactured by Baldwin. Baldwin's line of residential decorative hardware and commercial hardware is one of the broadest lines of hardware manufactured today.

Styles and architectural designs range from

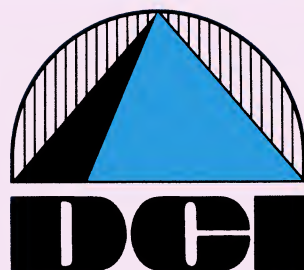
Colonial, Victorian and Traditional to Contemporary. The product range begins with high security mortise door locks and door trim, hinges, mail slots, door knockers, kick plates and



ranges to interior door hardware, cabinet hardware, switch plates and

bath accessories. finishes range from polished brass, antique brass, dull nickel, polished chrome to oil rubbed bronze.

Baldwin's established reputation has been achieved through their dedicated production of high quality hardware through process of hot forging solid brass. This manufacturing process has many advantages over cast metal hardware. The hot forging process produces pieces that are stronger and actually heavier due to the compression of the metal's molecules. Fine design details can be reproduced and the surface of each hardware piece is smoother and harder, a distinct advantage over



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# **Baldwin** *Continued from page 41*

porous castings. It's the hard, smooth surface that enables Baldwin to polish the metal to the deep, rich, lustrous finish they are known for. All metal finishes, except chrome and oil rubbed bronze are coated with a clear protective coating to prevent tarnishing.

Baldwin's awareness of the needs of today's value-conscious consumer is evident through their continuous market research, product design and development. Product improvements, new designs and finishes are introduced each year to fulfill these consumer needs.

Baldwin Hardware can be purchased through fine hardware showrooms, retailers specializing in decorative hardware and locksmiths who display and market hardware in the many major market centers throughout the country.

**For FREE Information**  
Circle 429 on Rapid Reply

## **R.A. Graham Company, Inc.**

The R.A. Graham Co. is a

wholesale hardware distributor with a heavy emphasis on decorative hardware and locks.

Founded in 1979 by Bob Graham, and located in Worcester, Massachusetts, the company serviced the needs of customers in the Greater New England area. Today, fourteen years later, with over 100 products lines in stock, the R.A. Graham Co. has expanded to nationwide sales.

Their major decorative hardware lines are Brassworks solid brass door locks, and Baldwin Hardware. They also stock Schlage, Master Lock, Weiser, and Kwikset solid brass locks, along with Don-Jo solid brass push, pull and kick plates.

The R.A. Graham Co. has the largest inventory of Brassworks door hardware in the U.S.A. Brassworks is made in America, and available in four finishes (US3, US5, US26, US26D). It offers you the flexibility to mix and match to create the lockset you want in the finish you want.

In 1992, the R.A. Graham Co. decided to expand their decorative hardware inventory by adding Baldwin Hardware. In stock is a large inventory of cabinet hardware, bath

hardware, mortise locks and trim, "F" section knobs and levers, and Images entrance and interior sets. The company has on staff, Baldwin factory trained technicians who can assist you with any questions or problem that you might have.

**For FREE Information**  
Circle 430 on Rapid Reply

## **Master Lock Company**

When selecting decorative door hardware for entryways, most consumers focus on the style of the door hardware. They want locksets that will enhance the image of their home. In some cases, this means homeowners must sacrifice security for style.

Three new entrance handlesets, the Richmond, Dallas and Plymouth, from Master Lock Company provide both the beauty and security homeowners want.

These entrance handlesets are part of the Master Lock door hardware line featuring Grade 2 deadbolt security for maximum protection, full lifetime warranties, and styles for today's homes.



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In addition to top security, the entrance handlesets offer sophisticated styling: the Richmond features an elegant oval face and curved handle; the Dallas is sleek, with a rectangular face and handle, and the Plymouth has a handsome, octagonal face with sweeping handle.

Master Lock offers a full line of knobsets, leversets and deadbolts. With a variety of styles and finishes, the door hardware complements any home, from traditional to contemporary.

In addition, Master door locks offer key benefits for locksmiths, including: exclusive "hands-free" mounting, which allows quick installation, and keyed-alike convenience. The unique design allows cylinders to be exchanged to match Kwikset, Schlage, Weiser, National or Dexter.

Master Lock door hardware satisfies the needs of homeowners with style and Grade 2 security; and satisfies the needs of locksmiths with ease of installation, keying convenience and full lifetime warranty support.

**For FREE Information  
Circle 431 on Rapid Reply**

## Schlage Lock Company

Included in the Schlage Lock Company line of decorative hardware is the F-Series Levers and Grip Handles. In the wake of the Americans With Disabilities Act (ADA), the look in locks now more than ever is levers. Schlage responds with three new residential grade solid levers: Elan, Jazz and Spirit. They join the popular Flair line to offer more options than ever—all at affordable prices.



Created for interior single and multi-family residential doors as well as light commercial application, all four designs meet ANSI Grade 2 requirements and all applicable ADA accessibility codes.

Installation is quick and easy thanks to Schlage's 3-piece

construction. Elan, Jazz and Spirit levers are reversible for any door handling. All four are available in several function including passage, privacy, dummy and on the inside of F-Series keyed entry knobs and grip handles.

Schlage's distinctive line of grip handles were created for exterior single and multi-family residential doors. They are available in single and double cylinder functions, as well as dummy trim for double doors. Features such as universal backset latches and adjustable backset deadbolts make for quick and easy installation.

Security is enhanced by a full 1-inch throw deadbolt constructed with a hardened steel anti-saw bar, plus a heavy-duty wood frame reinforcer to protect against "kick-in" attack.

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by Jake Jakubowski

## Creatively Unconventional

*"After an animated discussion on the cost of retrofitting the old vault door, I told him it would take a couple of days."*

The area of North Carolina, where Christie and I live, offers a lot of opportunities to repair, or retrofit, older locks on the doors of some beautiful, and stately homes. Some of these homes are well over two hundred years old, and have been owned by the same family since they were built. Endeavoring to maintain the "originality" of the hardware we find, can often make me wish I had paid more attention to the "Mechanical Arts" instructor in high school.

Just recently, it was not my ability to find a creative means of repairing an original residential lock, but the customer wanted me to repair a burglarized lock on an old vault door. When I arrived at their place of business the customer handed me a cigar box with assorted bits and pieces of a long obsolete Herring Hall vault door combination lock in it.

When I say "bits and pieces," that's what I mean. In their efforts to gain entry (successfully, I might add), the bad guys beat, banged, chiseled, pried, poked, battered, and broke nearly every major component of that lock. The back of the lock case was in several pieces, the spindle was gone, the dial was distorted beyond repair, and there was only one "wheel" to be found.

The only part of the original locking mechanism that the "wrecking crew" had not damaged was the handle! I don't know why. They broke everything else in sight, and out. The interesting thing about the handle is that the "sleeve" that fits over the vertical bolt is made of wood.

At any rate, the customer handed me his box of parts, and wanted to know if I could "put this stuff back

together!" I resisted the urge to tell him that Harry Houdini was not one of my ancestors, and even if he was, this particular lock was deadlier than Harry. Instead, I patiently explained to the customer that even "good, old, high quality locks," like the one he used to have can seldom take the kind of beating his had, and survive. And, I commiserated with him about not "making 'em like they used to."

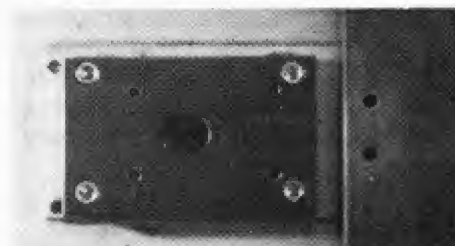
After an animated discussion on the aspects, and costs, of retrofitting the old vault door with a new S&G 6730, I told the customer that it would be a couple of days before I could do the work (No hurry here folks, the vault had been burglarized two weeks prior!). The delay was necessary since I would need to have some work done by a machine shop in order to retro' the 6730 to the vault door.

Photograph one, shows the original lock mounting plate with the carriage bar extension (stop) removed. I used the case of the old lock (probably a Yale) to have the new mounting plate made. The door of this unit is 3/8" thick mild steel. With the original mounting plate the total thickness in the lock area came to 5/8". Since the 6730 was not as "thick" as the original lock, it was necessary to add the "new" 5/8" thick mounting plate shown in photograph two.

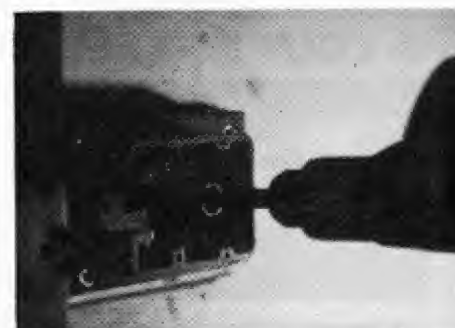
The original lock spindle mounted further to the left (from the outside) than the S&G did, so it was necessary to "rebores" the spindle hole to accommodate the 6730. I accomplished this by attaching a used 6730 lock case to the "new" mounting plate, and using it as a guide for the "new" spindle hole. (See photograph 3.) When complete, the "new" hole was simply an elliptical shaped



1. Original mounting plate with carriage bar extension removed.



2. New mounting plate installed with cap screws. Smaller holes are for mounting S&G 6730. Elliptical hole in center was to allow for spindle alignment.



3. This photo shows an old 6730 lock case mounted to "new" mounting plate to allow alignment for redrilling spindle hole.



4. The lock is shown in locked position.



enlargement of the old hole.

After enlarging the hole so that the spindle of the 6730 aligned properly, I mounted the new lock to the mounting plate. Photograph four shows the new lock with the back cover in place, and the locking bolt extended to the full locked position against the carriage bar stop.

The retrofitting of this vault with a 6730 required some "unusual" approaches to accomplish the desired result. For example, in addition to having a mounting plate made to "raise" the new lock to the proper height, it was necessary to place the dial ring over the dial spindle, and thread the spindle into the drive cam to it's approximate "finished" depth. Then making sure that the dial turned freely, and had equal clearance around the dial ring, I marked the dial ring location on the outside of the dial ring.

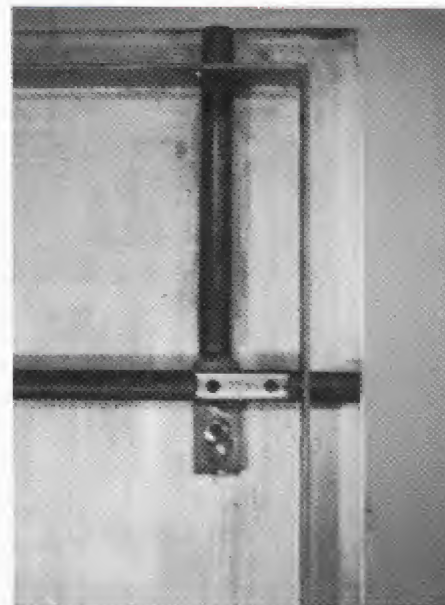
After disassembling the dial from the drive cam, and removing the dial ring from the spindle, I placed the dial ring within the alignment "marks" that I had made, drilled and tapped for the dial ring mounting screws (8-32),



5. This show shows two horizontal locking bars (4 total). Bars are sold 1-1/4" thick steel. The carriage bar has been removed.

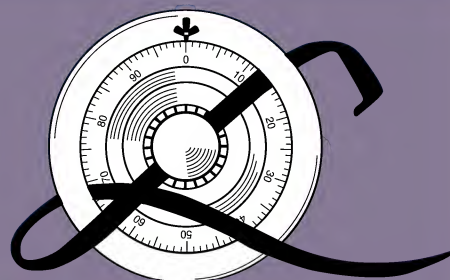
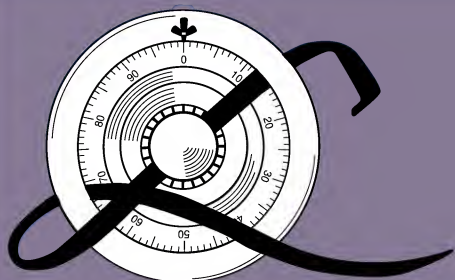
attached the dial ring to the vault door, and re-threaded the spindle in the drive cam to get my spindle length measurement. Definitely not "normal" procedures, but it worked under the circumstances.

There were four horizontal locking

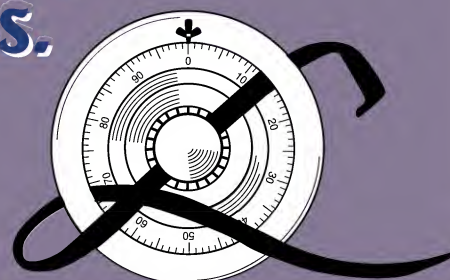
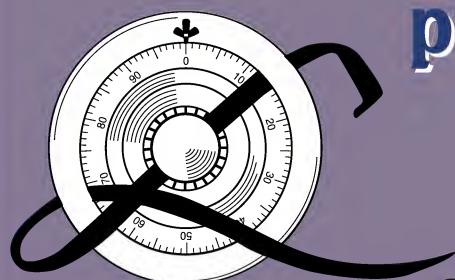


6. The vertical bar can be seen here in the upper right corner of the door. There is a similar bar at the lower right hand corner.

bars (see photograph 5) equally spaced along the height of the door, and two vertical bars at the upper (see photograph 6), and lower corners of the door. These bars were a solid 1-1/4" steel and their arrangement permitted them to "lock" both sides of



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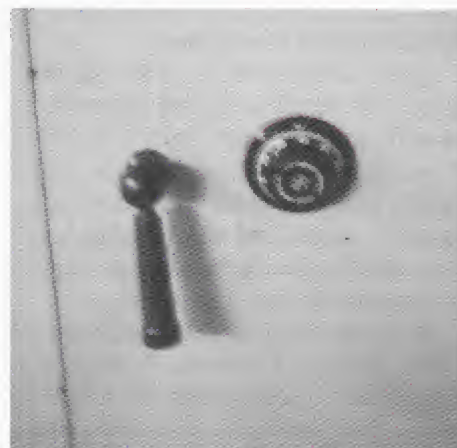
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7. The completed retro-fit from the exterior.

the door to the vault wall. The carriage bar is 2-1/2" wide, 3/8" thick, and moves both the vertical and horizontal bars simultaneously.

Photograph seven shows the completed "retrofit" from the exterior of the door. The original handle was reused.

I'm not sure how old this particular vault is, but I would guess that it has to be at least 100 years old, and probably more. Interestingly enough, there were no internal, or external relockers or relocking triggers of any sort on the door, or in the old lock. In spite of the "heavy" bolt-works, and carriage bar, the actual door was relatively flimsy. The original lock apparently had no safeguards such as a tapered, or off-set, spindle to forestall punching attacks.

By adding the 5/8" mounting plate, and the S&G 6730 with it's built-in relock trigger, I may not have made the vault one that would qualify for a UL rating, but I believe I substantially increased it's resistance to the same type of attack that got the bad guys into it in the first place.

This retrofit was not the same as finding a "creative" way of retaining the originality of an old mortise lock on Salmon's ancestral home. But by considering a novel solution to the customer's problem (particularly since there are few, if any, parts available for the repair of these old combination locks) I "created" a satisfied customer in an unconventional way! §





by Carl Cloud

## Dial Ring Alignment Tool

*"How many times have you installed a combination lock only to find that the dial turns hard or binds?"*

**T**here are many gadgets on the market. Only a few qualify for your "must have" list. These perform a task to make your job more professional or accurate and saves you time and money. Others make you wonder of the dyslexic function of the individual who designed the thing and who other than he needs it.

How many times have you installed a combination lock onto a safe door only to find the dial turns hard or binds because the dial ring is not centered? What a pain! Pull the spline key, unthread the drive cam and remove the dial. Loosen the dial ring and with your best squinted eye, visually realign the ring to the center of the spindle hole.

After putting the parts all back together again, the dial turns easier but is still cocked to one side. You either repeat the above operation or, if no one is looking, you tap the side of the dial with a hammer in hopes the ring will slip to a center location.

Tapping the side of the dial with a soft headed hammer can correct the misalignment. Once centered, the dial should again be removed and the dial ring mounting screws re-tighten. Occasionally, tapping the dial doesn't move the ring, it bends the spindle. Now you have a permanent wobbling dial!

Just because a safe is fresh out of its shipping box, doesn't mean it's in perfect condition. Those assembly

guys in the factory can have some problems aligning dial rings also. Plus, the drilling fixture positioning the four mounting holes for the lock case can slip. This causes the lock case to be slightly off center of the spindle hole in the door. This misalignment moves the dial ring mounting holes off center from the lock case, and the problem magnifies.

While showing a customer a new safe, it's embarrassing to find the dial obviously cocked off center and hear or feel a bind each time it passes a high spot.

During a conversation between an employee of Sargent & Greenleaf and

*Continued on page 56*

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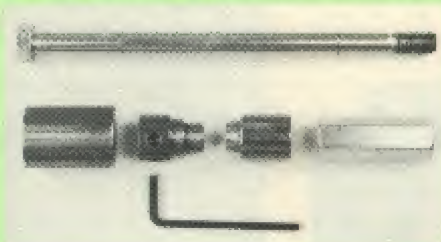


Continued from page 54

John Cannon of Locks Unlimited, the topic of the misaligned dial ring problem was discussed. "Wouldn't it be nice if there was a tool that would allow the safe technician or the safe manufacturer, to easily align the dial ring of the safe lock?"

That tool is now available! John Cannon sat down and designed a tool to do this exact job, which he cleverly calls the "DRAT." (Dial ring alignment tool.) Here is a gadget that goes on your "must have" list. It will save you a ton of time and eliminate another of your installing frustrations.

How does this thing work? In photograph one, are the components of the DRAT. The shaft is a hex-head,



1. Parts of the DRAT. The shaft, (from left to right) the slide hammer, wheel post bearing with set screw, dial ring bearing bushing and the shaft nut. A wrench is supplied for tightening the set screw.

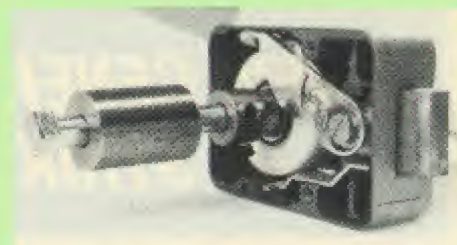
threaded bolt. The parts assemble onto the shaft starting with the slide hammer. (See photograph 2.) This part is a solid steel cylinder with a hole through its center. The slide hammer is free to slide back and forth on the shaft and acts as a mini slide hammer.



2. The order of parts assembled onto the shaft.

The second part is the wheel post bushing. This bushing slides onto the shaft and is secured in place with an Allen type set screw. The bushing is designed to snugly fit into the opening of the wheel post within the safe lock. The shaft, with the slide hammer in place, is inserted through the wheel post bushing. An index line on the shaft shows you how much of the shaft should protrude from the door face. The wheel post bushing is now secured to the shaft with the set screw. This group of three pieces make up the inside half of the alignment tool. (See photograph 3.)

The black nylon bushing that comes with the S&G dial ring assembly is slid over the protruding end of the shaft. It is centered into the spindle hole in the



3. The inside half of the DRAT installed into an S&G 8560 combination lock door by inserting the dial ring bearing bushing over the shaft and pressing it into the nylon bushing.

The final part, the shaft nut, is thread on and tightened until the wheel post bushing is seated into the wheel post of the lock case (see photograph 4.) The dial ring is now ready to be installed. The hole in the center of the ring will allow the ring to pass over the shaft nut and the dial ring bearing bushing. Press the ring onto the nylon



4. The black nylon bushing is centered to the spindle hole by the dial ring bearing bushing. Parts secured by shaft nut.

Continued on page 82

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The American Security shows are among the industry's best.

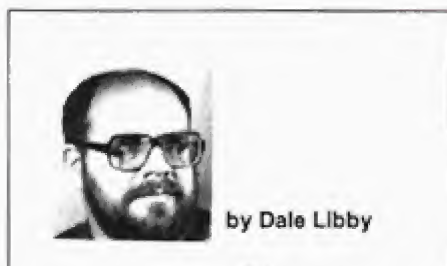
hardware professionals. These exciting shows feature new products, the finest management and instructional seminars available, plus the opportunity to network with other industry professionals. The American Security show recently held in April was a resounding success.

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software modules designed by security professionals for security professionals to help manage your day to day business operations. The modules include: Price Checking to allow access to AmLok's inventory price list. Inventory assists you in all aspects of inventory management. Point-Of-Sale instantly updates your inventory at the point of purchase through a PC or on-line cash register. Accounts Receivable tracks financial information. Electronic Bulletin Board Service gives you toll-free access to industry information on pricing, technical information and more.

For more information contact: American Lock & Supply, Inc., 4411 E. La Palma, Anaheim, CA 92807, (800) 854-8775 (Nat'l), (800) 422-4211 (CA). §





by Dale Libby

## Never Say DIE!

*"I was called upon to open a Diebold vault door in a factory that was being completely refurbished."*

As in the title, I was taught many years ago to never say "DIE" when working on any safe or vault, and especially when pronouncing the name "DIEBOLD." It is "DeeeBold." Get a bunch of locksmiths (and/or customers) together and ask them to pronounce the name "Schlage" and you will get a profusion of pronunciations.

If you can understand what they are talking about, it really does not make any difference.

I was called on to open a Diebold Vault door in a factory that was being refurbished, from floor to ceiling. They were removing the asbestos over the pipes, painting, hammering, and wiring this large factory. Unfortunately, only the back half of the building was "turned on" and in the part that the vault was located there was no electricity, no lights, no water, no windows, and most importantly, no heat!

Luckily, I have a large collection of flashlights. I looked at the door and saw a large dial (bubble dial as D.M. calls it) made of plastic with large numbers. (See photograph 1.) To the left of the dial was the plastic opening handle wrapped in electrical tape.



1. Large Diebold (Your) bubble dial and wrapped opening handle. Dial pushes in, manipulation-proof lock.

This fact told me that the door was probably hard to open and close, and that the handle had been subjected to

much abuse, and that the tape was holding part of the handle together. This assumption for once proved to be true. I noticed that the dial stuck out from the dial ring about 1/2". I was not cognizant of the reason until I touched the dial.

I have seen this dial on York safes and vaults before. It was in vogue in the late 50's and early 60's. I have several in my collection with the "York" logo in the center. Since Diebold acquired the "York" name, they sometimes used these dials on Diebold safes. Why was it sticking out from the dial ring?

I pushed the dial in and it was spring loaded. I had never seen anything like this before. Playing with the combination dial for a few minutes, I figured out that this was a manipulation proof lock. I had never seen one like this before, but I was really ready to try and manipulate this safe open as opposed to dragging and lugging all my tool boxes the block it would take to get back to this area of the factory facility.

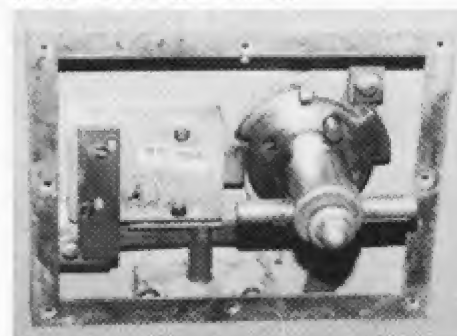
I determined the drop in points by pressing the dial in and rotating it. I picked up very faint points between 45 and 60 on the large oversized dial. This meant that the lock was splinned wrong and that the adjustment on the dial cam was too loose. One should not be able to pick up contact points if the lock is adjusted correctly I later found out.

I moved only the third wheel, that was closest to the drive cam (the last number of the combination) and picked up an incredible reading at 14. It closed the drop in area one full number on both the right and left contact. What could I lose. With the aid of "speed manipulation" I was able to pick up the second number easily, and then I dialed for \$\$\$\$ to get the first number.

It took about 15 minutes to open this unique manipulation resistant lock. What would I have done if I could not have manipulated it open? I would have drilled a 1/8" hole outside the dial ring

and above the centerline of the lock bolt.

Photograph two shows the inside configuration of the lock and bolt handle, and below it the double relocker mechanism. This relocker is activated either by heat, flame, or torch or by punching the back cover of the lock off. It is rather nasty to bypass, so do not set it off. I have covered servicing these relockers in other articles.



2. Inside view of emergency opening handle and lock and relock mechanism.

In photograph three we see a close up of the primary bolt locking cam above the combination lock bolt. There is a copper pin to the right at about 1 o'clock. This is the pin that the inside emergency handle slide up on.



3. Close-up of lock, handle cam and emergency opening "T" handle. Note copper pin at 1 o'clock.

To open the safe from the inside, all one has to do is to pull out the "T" handle and turn the handle counterclockwise. This movement pulls the handle cam away from the combination lock bolt and lets you



rotate the primary cam to withdraw the bolts.

It bypasses the combination lock altogether. (See photograph 4.) In Photograph five we see the handle completely turned and the bolts withdrawn.



4. The handle has been pulled out and turned halfway. The cam by-passes the end of the combination lock bolt.



5. The handle has been completely turned and the vault door is open. There is a stop on the inner cam.

We, as professional safe technicians, can use this emergency exit as a way to bypass the combination lock. All one has to do is to measure left of the lock to the end of the Group II lock and 5/8" above. Drill a 1/8" or 3/16" hole at this point, penetrate the materials and possible hardplate. If your hole is correct, then you would insert a stiff probe or pick, push the locking cam into the safe, and turn the outside handle in a clockwise direction and the vault door will open.

Photograph six shows the opening cam. It is made of a plastic material and has a gate cut halfway through it. In this picture the gate is at 11 o'clock and the drive cam is at 2:30.

Photograph seven shows the drive cam and the locking lever. The nose of the lever rests on the edge of this truncated cone edge of the plastic wheel.

When the correct combination is dialed, the dial is turned to "0", pushed in, and turned right until stop. The dial had been splinned incorrectly. I reset and reworked the entire combination lock. That was the easy 1/2 of the job.

The rest of the job was to shim and align the vault door. I did this by using



6. This is the drive manipulation proof cam. It's plastic with half a gate.



7. Lever resting on plastic drive cam.

spacers on the top and middle hinges. It made the door almost easy to close. Before I shimmed the door, it was impossible to close, even using all my mass and inertia.

I told the building maintenance supervisor that I could make the door much easier to use by doing a little custom grinding on the door frame and the threshold of the vault. The building had settled and bound up the lower part of the door.

I am often asked by other safemen how I price my jobs. While not getting too detailed here (I will in the NSO), I quote

1. Trip Charge or Service Call Price (Miles to site)
2. Minimum Opening Price
3. Repair Price
4. An open ended special parts or services needed.

The only figure that is constant in the above list is #2. My usual minimum opening price on a vault door is \$150. The other prices are open to discussion and can only be determined after working on the door or lock, and the time needed to effect said repairs to the satisfaction of the customer and yourself. The #2 price can also go up according to the problems encountered when working on the safe. I will discuss flat rates in another article, both the benefits and the problems.

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# Bits & Pieces

Informative Tidbits For The Security Industry



by Tom Seroogy

**H**ere's a problem that is more prevalent than either the auto industry or the public want to admit — key interchange. Many times, due to the limited number of codes and the rather loose tolerances of auto locks, keys do unexpectedly interchange, although they may not be exactly the same.

Some examples:

In Altoona, PA, Paul Folcarelli was picked up by police for stealing a 1984 LeBaron from a mall lot. The surprised Folcarelli soon learned that the keys to

his vehicle fit the nearly identical vehicle that was parked only a few spaces from his own.

Last July, I rekeyed a Honda Prelude because the customer's keys had been stolen. A week later the customer called back and said the keys to her roommate's Civic also fit her car.

Friends of mine were constantly having small items and money taken from their Tercel, despite leaving it locked at all times. It was soon discovered that a local youth was using a Toyota key to enter the vehicle. The key was simply close enough to operate many Toyota locks.

In Chicago, 10 Toyota Camrys were reported stolen by youths using Toyota "master" keys.

You might want to call them flukes or coincidence. Actually, it should be

expected, or at least anticipated. As locksmiths we have little control of the tolerances and code range of any lock, but at least we can be prepared for the confounded look on a customer's face.

\*\*\*\*\*

*In the late 1960's and early 1970's a factory installed locking gas cap was included on many Ford vehicles. The lock was placed into the throat of the filler hose and required the use of a key sporting a long blade.*

*While the lock has long since been discontinued, every now and then a locksmith is asked to duplicate or make keys for one. The keyblank is the B&S #321435. These blanks can be factory ordered through a Briggs & Stratton distributor.*

\*\*\*\*\*



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Cylindrical Locksets	800	800	CL3400
	400	400	CK4200
	6600	3400	CK4400
Rim Exit Devices	29	372	ED8200
	39	572	ED9200
Vertical Rod Device	20	382	ED8400
	30	582	ED9400
Door Closers	120	2820	DC2200
	110	2810	DC2400
	100	2800	DC2600

\*\*\*\*\*

Master Lock Co. has started a new line of padlocks for commercial use. According to Tom Smith, Associate Product Manager, Padlock Division, the ProSeries padlock is being introduced to cover the special security and weather concerns of the commercial market.

The new line is the result of research that Master conducted with locksmiths and hardware suppliers throughout the country.

Because the lock is being produced for commercial use, it will not be offered through retail outlets. The main focus in supply will be the hardware supplier and the locksmith.

Because these locks are highly serviceable, locksmiths can expect to get a good share of padlock business through these locks.

\*\*\*\*\*

Well, here it comes! New locking systems are expected for the 1994 N body (Grand-Am, Achieva, and Skylark) and the 1995 J body (Cavalier) GM vehicles.

According to Briggs & Stratton's Scot Hooper, manufacturer of the new system, the change will affect only the ignitions in the 1994 models, but anticipate that all locks will be affected in 1995 models. (See photograph 1.)

The good news is, the ignition is easily serviceable. After removing a two piece (clam shell) column shroud, the ignition retaining button is accessible at the back of the housing. Turning the key to the "ON" position allows the retainer to be depressed for cylinder removal.

Continued on page 82

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# The Lighter Side

Pleasant Dreams!



by Sara Probasco

**T**he Day had started off with lock-outs. A clerk called early from one of the convenience stores. A customer had locked herself out of her vehicle and needed a locksmith. Don grumbled his way out of bed, dressed, and went to her aid, only to find two passers-by had managed to get her in.

Usually, this sort of thing gets Don's Irish up and he does his best to at least collect a trip charge from the errant customer. But this particular morning, he returned home empty handed and whistling contentedly.

"I should think you'd be agitated over being called out on a false alarm," I commented over breakfast.

"This time, it was worth the trip," he replied smugly.

"How's that?"

"When I got there, I must admit, I was teed off to find two guys had gotten her vehicle open, after rousting me out of bed at the crack of dawn. Then I noticed they had broken her window trying to get in—the little triangular window—you know, the one that costs an arm and a leg to replace."

"Oh, Don. How awful for her."

"Yeah, he said, trying to look sad. "The lady apologized for not waiting but said the guys had offered to help, free, and she was in a hurry."

"What did you say?"

"I told her I would have charged her thirty dollars, but I could have had it open in two minutes, with no damage to her car. Then I told her how much Johnny Brecker had to pay for the same kind of little window he broke out on his car, last month."

"And...?"

"Well, after she could breathe all right without the brown paper bag, she said she thought she'd wait for us,

next time." Don appeared thoughtful for a moment. Then he added, "I wasn't entirely unsympathetic. I suggested that she get the two guys who helped her open the car to buy her a new little window. If she could find them."

All day, there was one car-opening after another. It was as if our shop gremlins were at work on the community, at large, tossing people's keys into their cars, just as they slammed their locked doors.

Early that afternoon, Don hung up the telephone and looked at me with a quizzical expression. "That was Jay Crabtree calling. He's locked out of his pickup, down at the post office, again. I asked him what was going on with them."

"What do you mean?" I asked.

Well, this is the second time he's locked himself out today, and when he called, just now, I was on the other line telling his wife I'd come right over to the beauty shop and get her car open there."

"You're kidding."

"Fraid not." Don chuckled. "Me and my big mouth! I told him about his wife, and I may have started something."

"What do you mean?"

"He asked me not to mention anything to her about his knowing she was locked out. He wants to see how long it will take her to tell him about it." Don started out the door. "Will you call her back at L & M's and tell her I have another car to open before I can get to her? She was about to have her hair cut and didn't seem in much of a hurry for me to come."

"Sure."

"But for Pete's sake, don't tell her whose car I'm opening first. She may not know about his problems, yet, and I don't want to get in the middle of this, any more than I already am."

I couldn't wait for Don to get back, partly because I had another lock-out call for him, but mostly to hear what Jay and his wife had said.

"I asked Mary if she wanted me to

keep quiet about it," he told me, "but she said it was too late for that. She had called home trying to find Jay before she called me, and she had left a message on their answer machine about being locked out." Don chuckled. "She also said if I saw her husband again it was too late to keep his problem a secret, too. One of the ladies who came into the beauty shop had seen me getting Jay into his pickup in front of the post office. She couldn't wait to tell Mary all about it. I didn't mention that it wasn't the first time he'd called today." Don shook his head in bewilderment. "Can you believe neither of them owns a spare set of keys?"

"Since you give a free-key card with every car opening, maybe they'll use theirs toward getting some extra sets made."

"Maybe, but I don't know. Some people seem to enjoy living dangerously."

We had already turned out the light that night before the final call of the day came through, but it was the kind that made all the little aggravations of the work-day worthwhile.

The caller was a police officer who had been our very first customer when we opened our business in Ulvade, nearly seven years ago. He asked if Don would go out to the local dance hall and open his daughter's vehicle for her. If we would write him out a ticket, he would come in the following afternoon and pay it, he said.

Don agreed.

However, in light of the frequency with which we run into various members of the police force doing our job for us, Don couldn't resist asking, "How come you called me, instead of getting one of your cohorts to open it for free?"

"Are you kidding?" the officer replied. "No way would I let one of those turkeys mess with my vehicle. There's no telling WHAT kind of damage they might do."

Don had pleasant dreams all night. §



# Beginner's Corner

## How To Start Your Own Business



by Eugene Gentry

**T**here are three ways for you to start your own locksmith business. 1) Buy an existing shop. 2) Open your own shop. 3) Operate a mobile locksmith business. I will discuss each of these methods so you can decide which one is the best way to get started in business. Each one has advantages and disadvantages.

However, before you think about opening up your own business, you should work in an established shop to learn all you can. At the same time you should be buying some of your own tools. By working for some one else, you

will be able to determine which tools you need. Take a course at a junior college or correspondence school in business management.

If you have the money for a down payment, and are willing to go into debt for the balance, a good place to start is by buying an existing locksmith shop. An established shop has an established name with an inventory all ready in place. There may be employees working there that you can depend on, and the owner of the place might help get you started. You will have to do some investigating before you buy, asking questions about the profit of the business, looking over the books closely.

There are other things you should attend to, such as surveying the area to see if there is any competing locksmith shops close by. Check for any other factors that might affect your business,

such as a free way being built in front of the shop, or an area that is deteriorating. Take your time to be sure everything is to your satisfaction before you buy.

Another way to start a locksmith business would be to open your own shop, but in my opinion, this is the most difficult and expensive way.

You have to survey the area to see if it will support a shop, buy or lease a building, and buy all the inventory and tools that you need. Next would be city and state permits required to open a business. You will need to hire help to take care of the shop when you are on the road. You will need all this and more beside having a debt to pay off. You should realize too that any new business takes time to become established.

A business of a mobile locksmith is a

*Continued on page 85*



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## Seroogy Speaks

*Continued from page 6*

these levels. Local associations are close to the issues and can bring the heart and strength of the locksmith into politics.

Associations can also serve as the training centers for locksmiths. Defining and setting standards that are compatible with industry. Laying out minimum requirements and a course for training.

If large enough, associations can bring in teachers that are competent in different areas of security, raising the degree of competency and professionalism among its constituency.

Idealistic? Maybe. But, there's strength in numbers. There's even more strength in numbers that are focused on achieving a goal; with numbers that have an agenda for success and for the future.

Let's all be part of that future! §

## Exit Devices

*Continued from page 27*

Make sure that holes and cutouts on doors with pre-exiting hardware do not interfere with the mounting holes of the new head and bar of the new device. Many devices are currently made to retrofit a door with an ANSI 161 door prep (2-1/8" crossbore and 1" edge bore, typically cut for cylindrical locksets). (See photograph 4.)



4. This APR Industries 22EO (exit only) panic device is just one example of low cost devices designed for new and retrofit installs. The device shown is for a door with an ANSI 161 prep.

As a wrap up to this article we should mention a few of the specialty tools that may be used. For standard installations: Tap and die set, reciprocating or jig saw, masonry bits (for mortar filled frames), speed square or other type of square, various sized holes saws, router (for wood doors), cutting oil.

If you find yourself doing some heavy duty field work on metal doors, a plasma cutter makes the job easier, although it is not critical and very expensive. §



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## GM MATS

*Continued from page 33*

mounting feet of the armor plate.

Using a T15 Torx driver, remove the armor plate mounting screws and slide it forward over the steering wheel lock plate. (See photograph 8, 9 and 10.)



9. Holding the steering wheel lock plate with the block tooth at the 7 o'clock position, the mounting feet and screws of the armor plate have enough room to be lifted past the steering wheel lock plate.



10. With the armor plate removed, the rest of the column can be disassembled using standard GM procedures.

4) Remove the steering wheel lock plate, turn signal switch and ignition cylinder retaining bolt following standard GM column procedure. (See photograph 11.)



11. The ignition removed.

*Thank you to Steve's Lock Shop, Park City, IL, and Classic Chevrolet, Waukegan, IL, for the use of the Blazer in this article. §*

## Hamilton Safe

*Continued from page 52*

Well, I hope you have enjoyed this brief look at the Hamilton Security File and the Mas-Hamilton XO-7. By the way, in case you were wondering, there is no relation between the Hamiltons. They tell me it is pure coincidence.

*On December 8, 1992, Mas-Hamilton ceased production of the XO-7 because*

*Continued on next page*



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*Continued from previous page*

*one of the government testing labs developed a technique for covertly defeating the lock. Mas-Hamilton went to work and modified the X-07 to overcome the weakness that the government boys were exploiting. Reapproval came on January 22, 1993. So far, mum has been the word from Uncle Sam and from Mas-Hamilton; they aren't talking about the technique that was used. Hmmm...*

*See ya next month. §*

### Dial Ring Alignment Tool

*Continued from page 56*

bushing, rotate to the correct index position, and secure the ring to the door face (see photograph 5.).



5. The dial ring will slip over the protruding assemble and seats into the nylon bushing.

To remove the tool, unthread the shaft nut and remove the dial ring bearing bushing. When the shaft nut was tightened, it pressed The wheel post bushing into the wheel post and may have become a snug fit. A couple of taps of the built-in slide hammer will release the bushing.

There you are...a perfectly aligned dial and ring! I found by loosening the four mounting bolts of the lock case, the DRAT helped to align the case to the center of the spindle hole.

I've used the DRAT and it has become a part of my tool box. If you would like more information, write John Cannon, CML, Locks Unlimited, 7014 Bedrock Road, Alexandria, VA. Or call (703) 960-6413, or FAX: (703) 768-1291. §

### Bits & Pieces

*Continued from page 73*

If a key is not available, a simple procedure used to remove the retain pin allows the lock to be removed and replaced.

The new key is a double sided convenience key with nine cuts and a new keyway (B&S #595936). The code series, J and K followed by four digits (unknown at the time of this writing), will be stamped on the ignition cylinder. §

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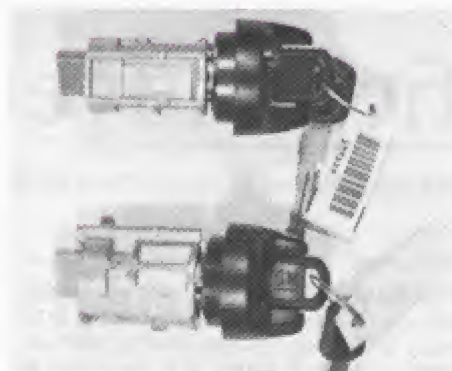
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1. New Briggs & Stratton ignitions.

The locks are serviceable and pinning kits will be available.

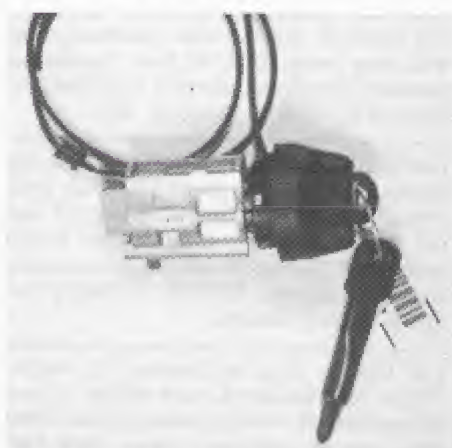
This same ignition design is going to be included in VATS form on the new 1995 G body Oldsmobile Aurora (see photograph 2). A new Interrogator design



2. New standard and VATS key.



3. New VATS decoder.



4. New VATS Ignition.

Continued on page 85

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## Bits & Pieces

*Continued from page 83*

will allow both the old and new style VATS keys to be read (see photograph 3). An adapter will also be available to covert older style Interrogators. As this car is not being released until December of 1994, the new VATS keys and decoders are not yet available (see photograph 4).

Chrysler will also see a new change in keyways and code series for their 1994 models. §

## Beginner's Corner

*Continued from page 76*

versatile and profitable way to consider. Your overhead is low as you can work out of your house. You have only your truck or van to worry about because you carry your shop with you. In addition to your truck, you could have a little shop in your back yard, basement, or in the house to take care of jobs that take more room.

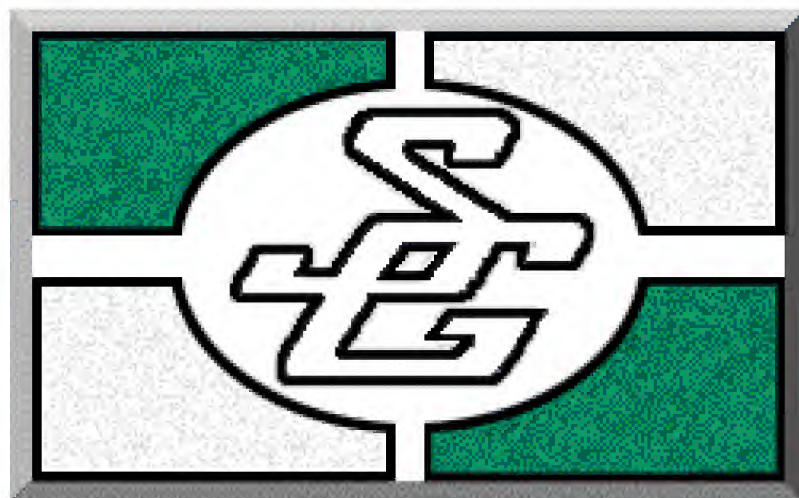
Of course, when you stock your truck, you will need power tools that run on 12 volts. I plug mine into the cigarette lighter. For communication, have either a cellular phone or CB radio so your customers can get hold of you.

Your truck should be equipped to carry key blanks. Depending on what you drive, the key blanks can hang on hooks on the wall of the van or can be kept in drawers of a cabinet. One lock-smith suggested using a cabinet like a bee hive. This is handy because it has numerous vertical shelves that lift out of the box. Each shelf has room to hang key blanks.

The different trucks I have seen are equipped with a work bench. On the bench are bolted the duplicating machine and code machine, and under the bench are drawers and shelves for tools and supplies. Above the bench is a peg board for small tools to hang.

Once your mobile unit is equipped, you should be passing out your business card and making calls to make yourself known. Contact the yellow page directory for an ad. You could run an introductory ad in the local paper for a start. It might be slow going for a while until you get established and get a cliental built up. Someone who can help you is your supplier, so get acquainted with him.

A mobile locksmith has advantages over buying a shop or starting your own shop in the fact that the overhead is low and you are not starting out deep in debt. You are you own boss and can regulate your time and expenses. In any business start up, be sure you have all the city, state permits, tax forms and the insurance that you need. §



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